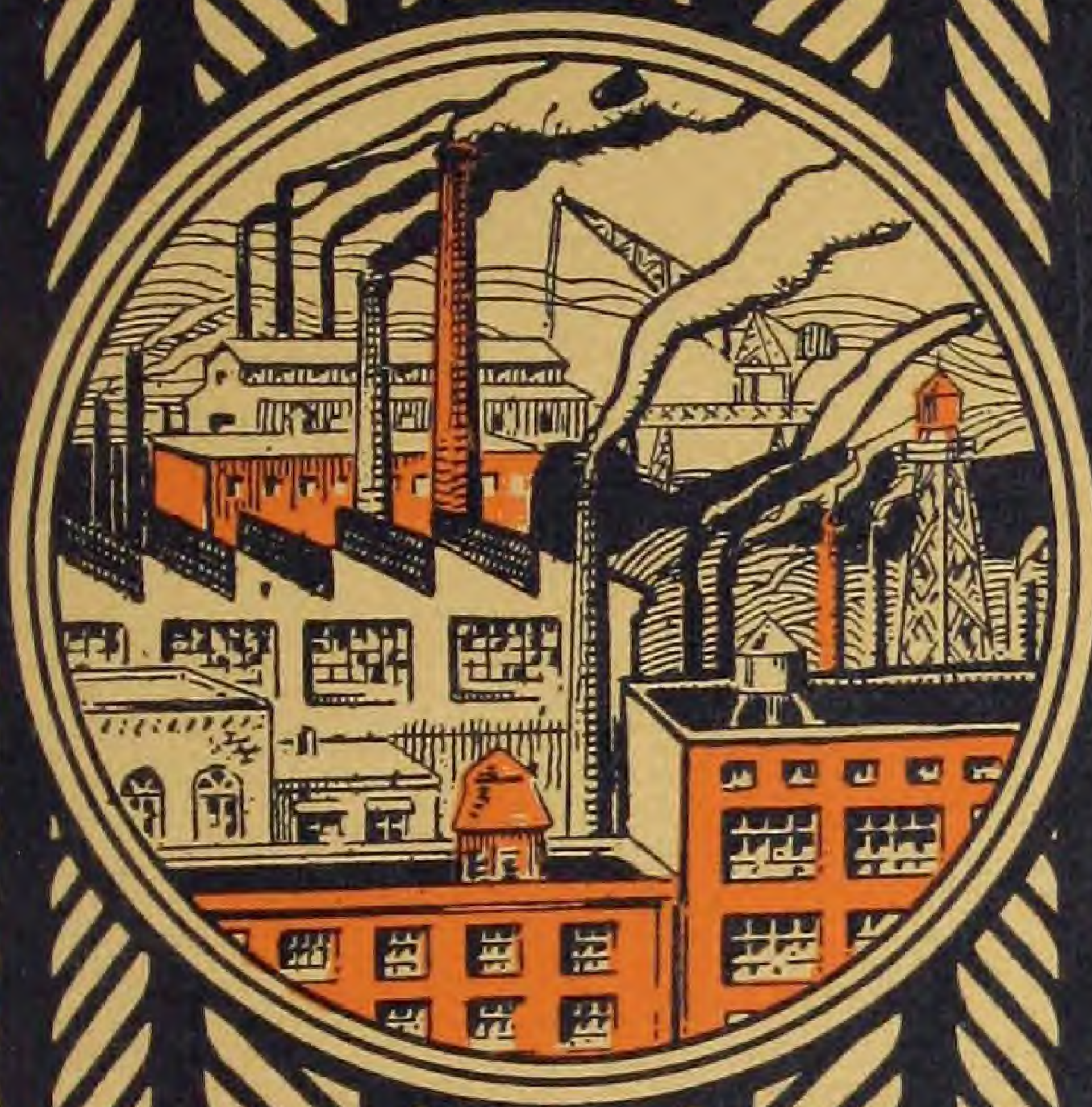


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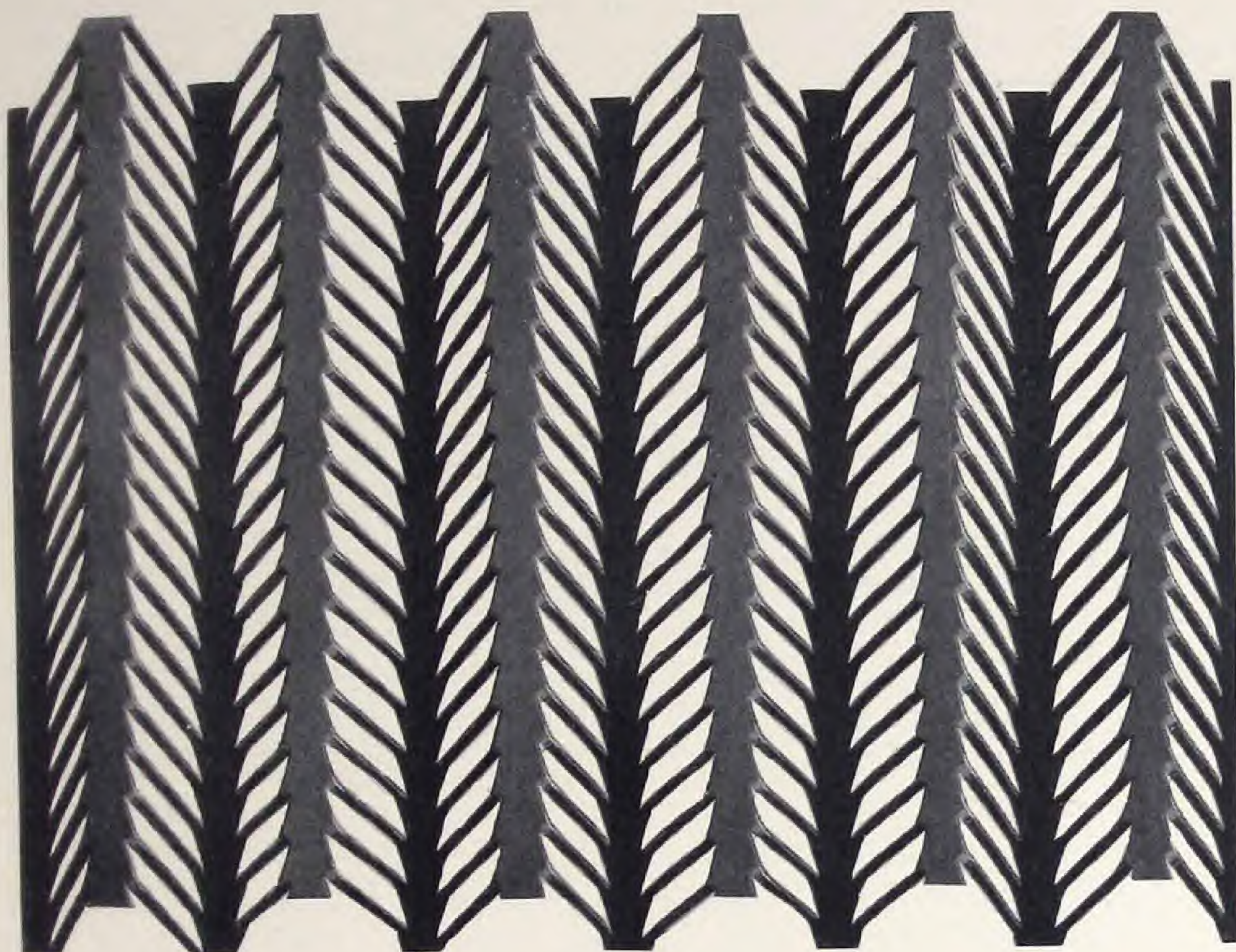


Swissit









**T**RUSSIT is a corrugated expanded sheet, which forms the base and reinforcement for plaster walls and partitions. It eliminates entirely the use of studding. Walls and partitions need be but two inches in thickness, when built over Trussit.

As will be noted from illustration of the material at the top of this page and by detail cut on following page, Trussit is uniformly expanded in both directions. That means equal reinforcement and strength.

Trussit is so interwoven back and forth through the cement or plaster that it is an integral part of the wall, not a mere backing for the plaster.

This uniform distribution of the metal also overcomes any tendency toward cracking through expansion or contraction in any general direction, which might result from temperature changes.

Trussit is a distinctive material. It was originated by The General Fireproofing Company and has been manufactured and sold by it for years. Many of the country's foremost engineers specify and use Trussit in preference to other materials, for nonbearing partitions and curtain walls.

It is simple to erect and plaster. The sheets are usually erected vertically (although they can be used horizontally when the shortest span is in that direction), fastened top and bottom, temporary bracing is applied to one side of the Trussit and it is ready for the first coat of plaster.

Plastering Trussit is likewise simple. One coat is applied and scratched to receive the second coat. After first coat has set, the tem-



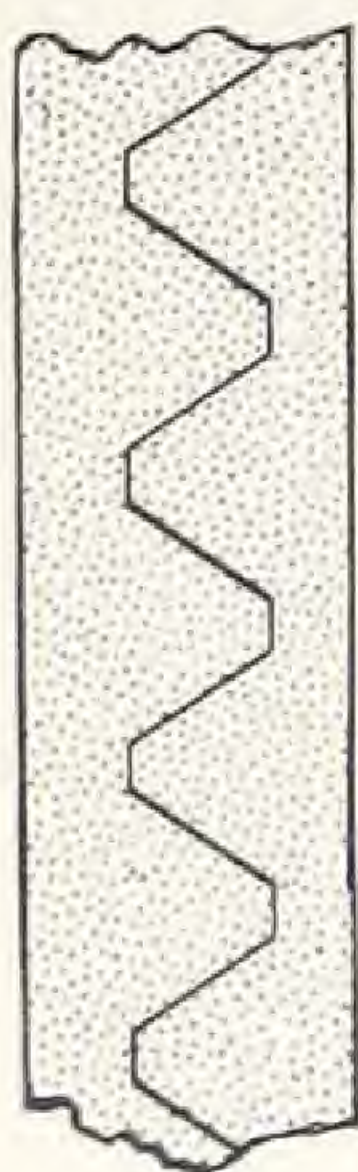
porary bracing is removed and the Trussit is plastered on the opposite side. Then one plaster coat after another is applied (same number on each side), until the desired thickness is reached.

Plaster specifications are given on pages 15 and 16, and throughout this book will be found detailed data, showing how to use Trussit under almost every standard building condition that may be encountered.

Trussit can be employed in many types of construction. The illustrations in this book, of actual instances where it has been used, are only a few of the more general applications that have been made of it. Any engineer or builder who once becomes familiar with the features of Trussit, through actual use, will find a wide adaptation for it.

Saving space, which a two-inch wall or partition does, is a most desirable feature. Thin walls also mean a saving in dead weight. That reduces the entire cost of a building's framework. Ease of use and speed on the job in hand, made possible by the simple method with Trussit, are also worthy of note.

Trussit construction is economical. Built of cement plaster, but no forms are needed as with concrete. In every way, a non-bearing Trussit wall or partition is as good or better than poured concrete, at much less cost.



Showing Location of Trussit in the Wall

Fire has no chance to gain a foothold on Trussit walls. Metal and plaster expand equally, consequently there is no tendency for fire to cause the plaster to break away from the metal under actual fire conditions. Tests explained on page 14, show Trussit's performance.

There are many uses for Trussit partitions and walls, in factories, offices, apartments, schools, and hospitals. It is also used for fire-proofing wood frame buildings, for side walls of small frameless structures and out-buildings.



Trussit Bundled for Domestic Shipment



Trussit Bundled for Export Shipment

## Trussit Data

Standard size sheets are 19 x 96 inches, but Trussit is also carried in stock in lengths of 10, and 12 feet, also 8-foot 4-inch lengths in 27 gauge. Intermediate lengths supplied from stock will be cut from the next longer sheet and waste charged to customer.

Always packed 10 sheets to the bundle.

Gauge	Weight per Square Foot Painted	Weight per Square Foot Galvanized
27	.57 lbs.	.68 lbs.
26	.62 lbs.	(not made)
24	.83 lbs.	.88 lbs.

Trussit cut from galvanized sheets can be supplied from stock in 8-foot lengths only. Orders for other lengths will be subject to delays incidental to delivery of sheets from the mill. Trussit can also be furnished cut from Armeo Iron in 8-foot lengths from stock and in other lengths on mill shipment of sheets.





Trussit for Export

MILLIONS of feet of Trussit have been used in foreign lands, where the advantages of this material, simplicity of erection and plastering, make a particular appeal.

Special care is taken in shipping the Trussit to insure reaching destination in good condition.

The sheets are made into a bundle, with ribs nested, and securely wired together. Sheet steel caps or trumpets are placed over the ends of the bundle and wired. This is shown in illustration on preceding page. This method has been found highly satisfactory and represents the minimum in weight and maximum compactness.

Measurements and weights of bundles for export are as follows, based on standard 8-foot sheets:

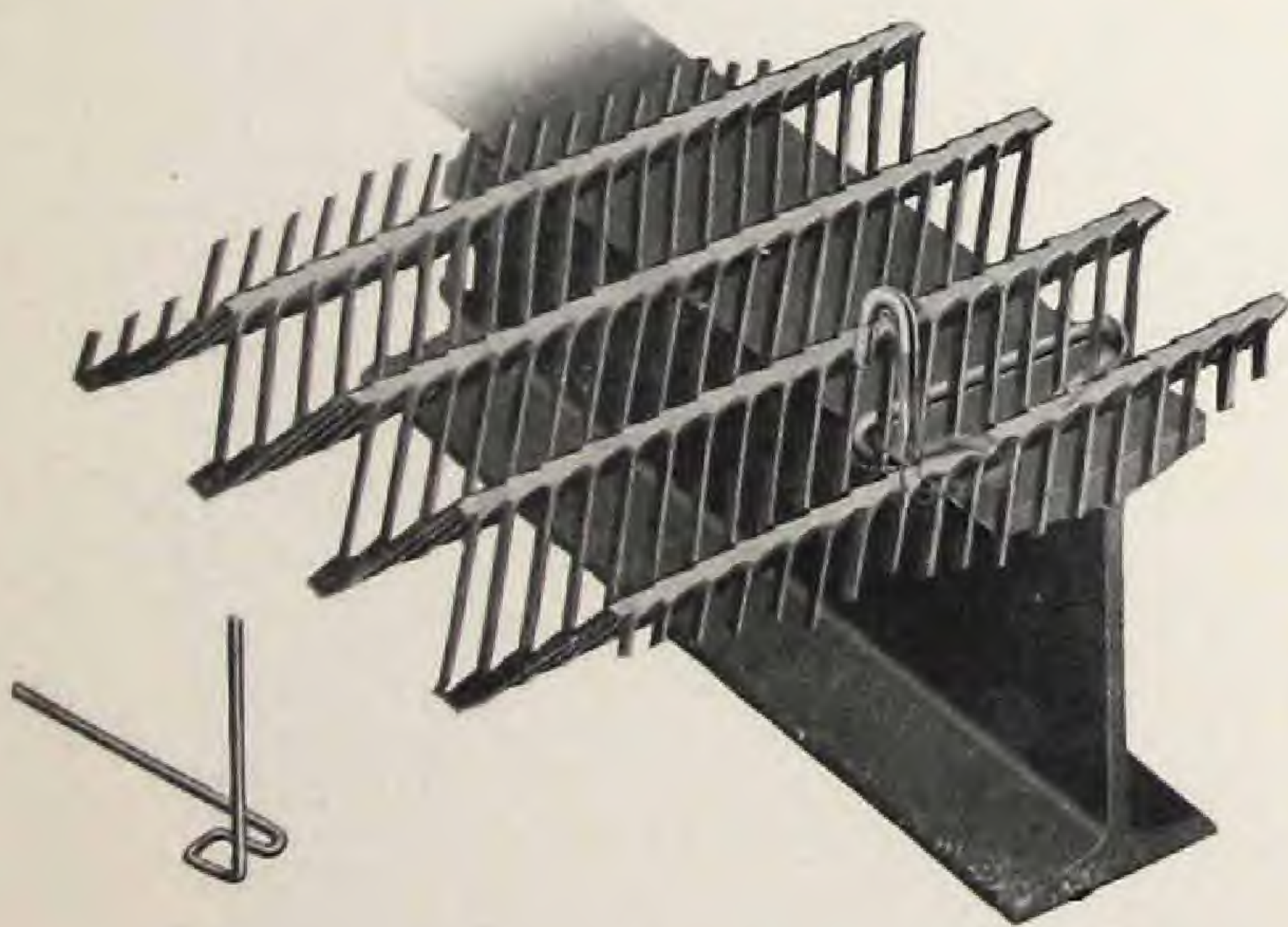
Gauge	No. of Sheets	Cubical Contents	Weight in Lbs.	No. Sq. Ft.
27	20	3.43 Cu. Ft.	150	252
26	20	3.43 Cu. Ft.	163	252
24	15	3.43 Cu. Ft.	163	189

Trussit Clips

Clip No. 3

This clip is used for attaching Trussit to I-beam and channels. When ordering give the size of structural members to be used, or order by following style numbers:

- I-beams up to 8-in. and all channels.....Style 3.55
- I-beams 9-in. to 15-in.....Style 3.7
- I-beams 15-in. to 24-in.....Style 3.9

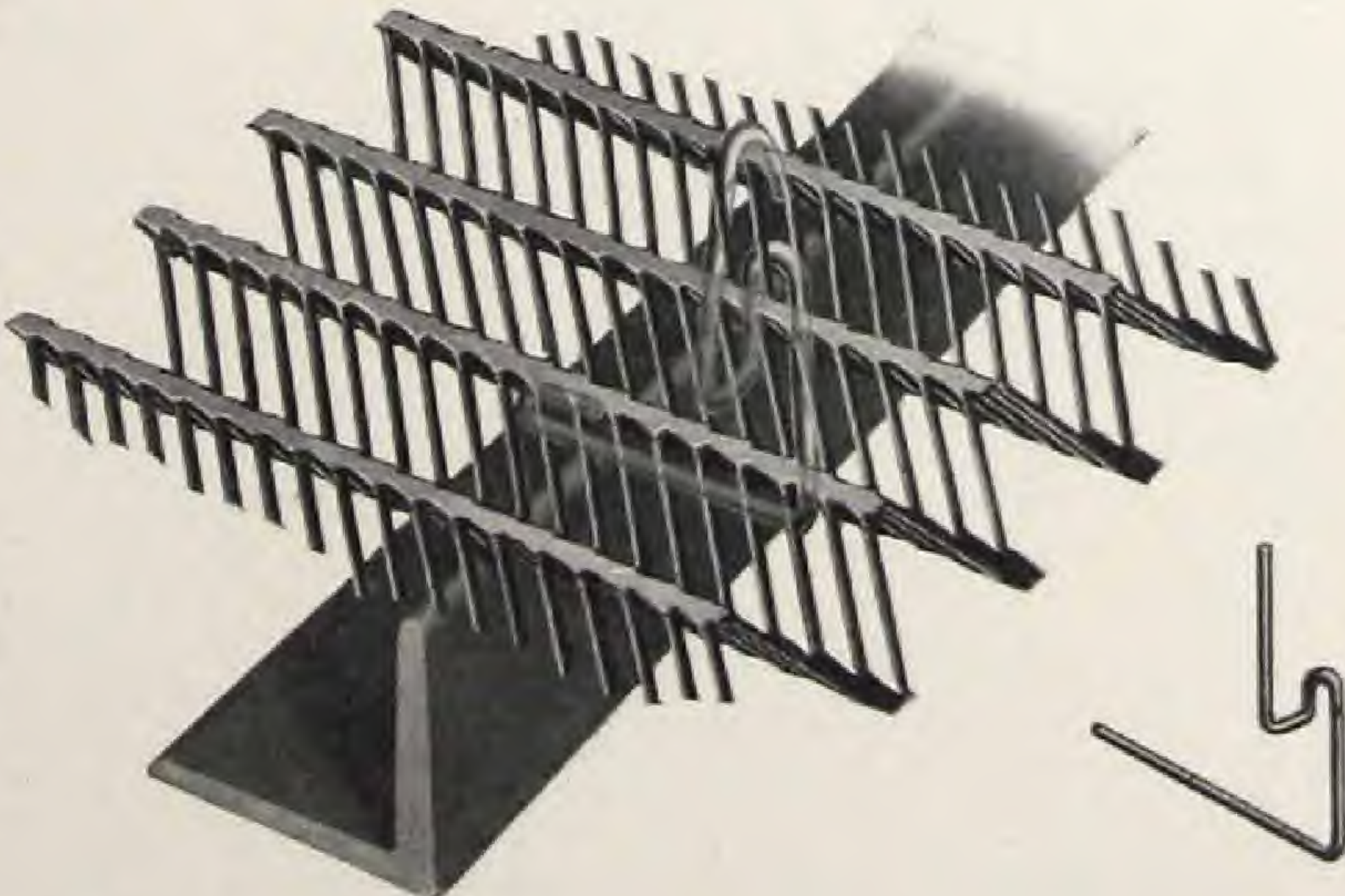


Clip No. 4

This clip is used for attaching Trussit to all angles. Always give the size of angles to be used, or order by following style numbers:

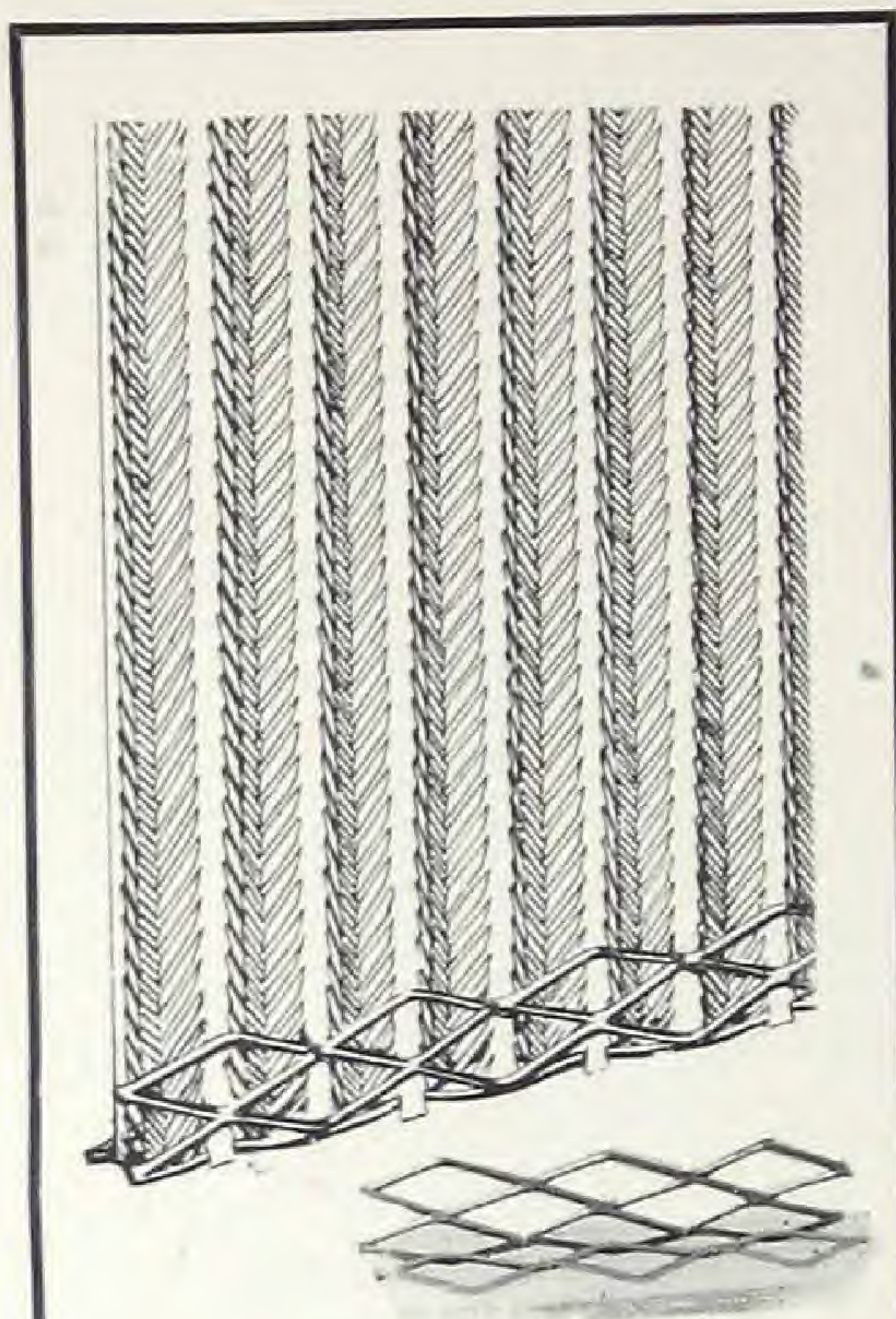
- Angles under 3-in. x 3-in.....Style 4.75
- Angles over 3-in. x 3-in.....Style 4.10

Both of these clips are made of No. 10 U. S. G. soft annealed wire and are very easy to place.





## Solid Partitions



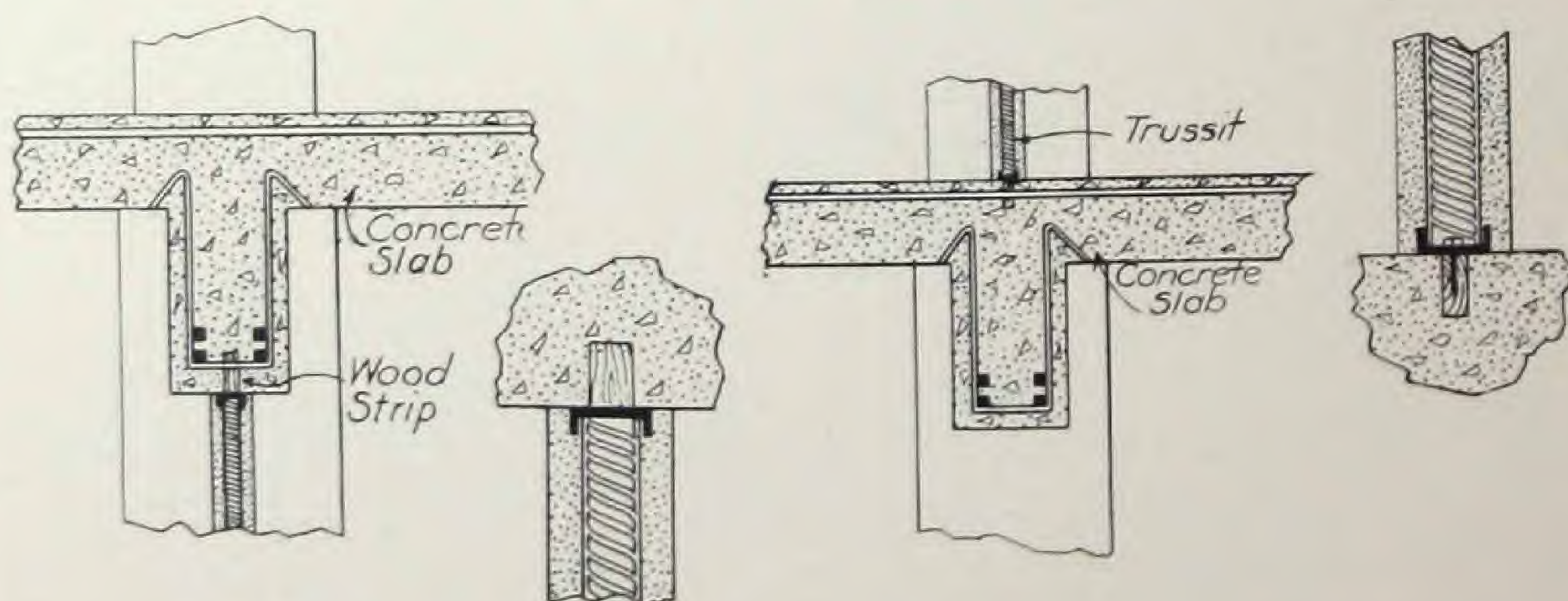
To fasten Trussit to floor and ceiling, the Expanded Metal Angle here shown is laid along the line of the proposed partition and stapled every two feet to the floor or ceiling supports. Trussit is then wired to the leg of the angle. This angle offers no obstruction to the plasterer, makes a permanent fastening for the wall or partition and prevents cracks at ceiling and floor line. The angle is 13 gauge steel and is furnished in lengths up to 8 feet.

ON this and following pages, are shown details of construction and illustrations of solid partitions. Regardless of the type of building in which partition must be erected, the principles are the same. Likewise, the desirable features of the construction resulting from the use of Trussit, are identical.

Trussit solid partitions have been built in some of the largest industrial plants, in office buildings, warehouses, storerooms, and in general mercantile buildings. Trussit is also extensively used around elevators and air shafts, for fireproofing purposes.

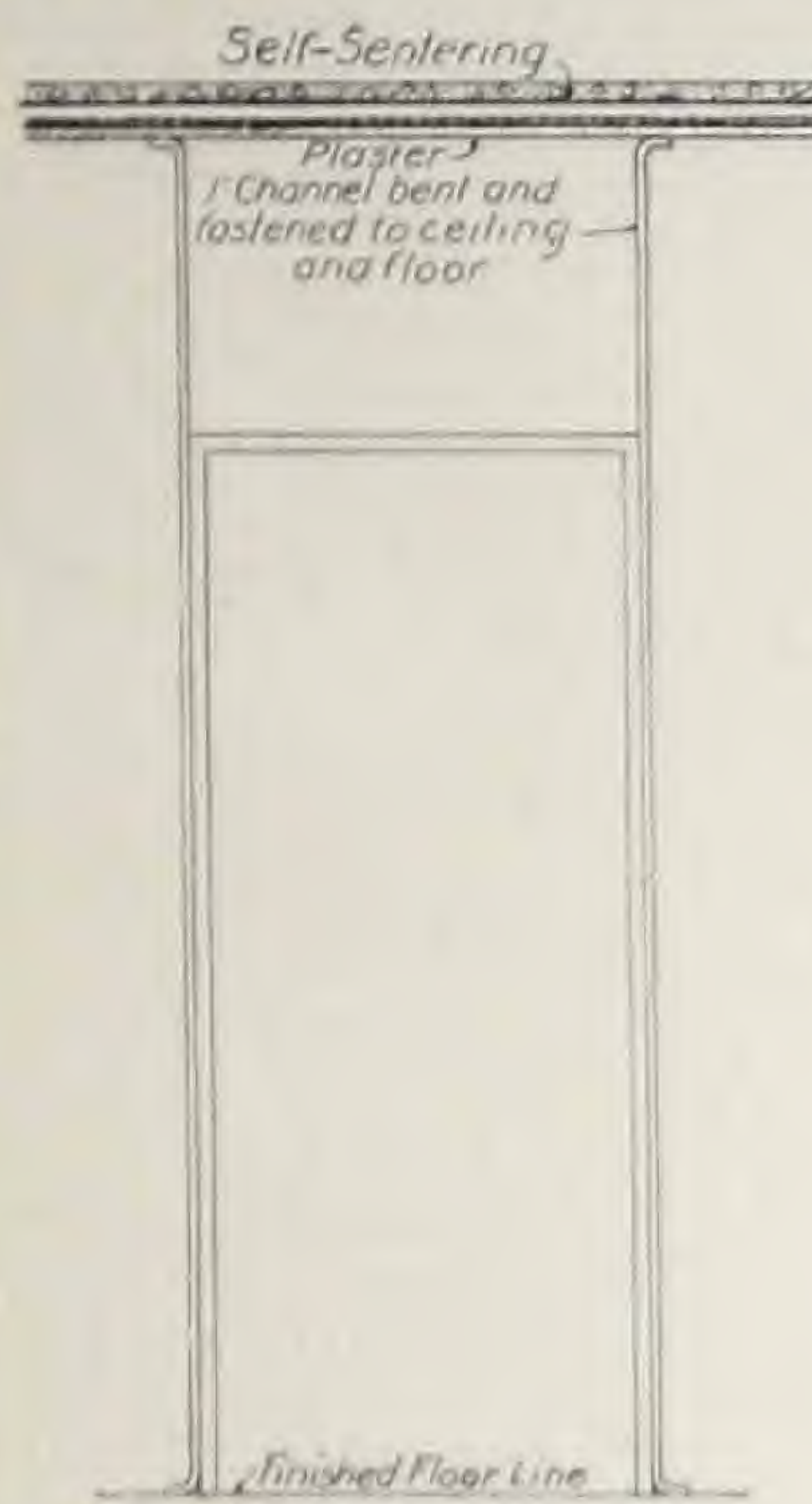
One of the foremost qualities of a Trussit partition is that of saving space. Contrast a 2-inch wall with the average partition from 6 to 9 inches in thickness, and figure the space gained. Often the difference is just great enough to distinguish between efficient and non-efficient arrangement of a building's contents.

Trussit solid partitions are rigid and possess great strength. The metal and the plaster are so firmly united that there can be no weakness at any point. In cases where such partitions have been tested by accident, their strength was surprising. Unlike walls composed of units, which when subjected to shocks or severe

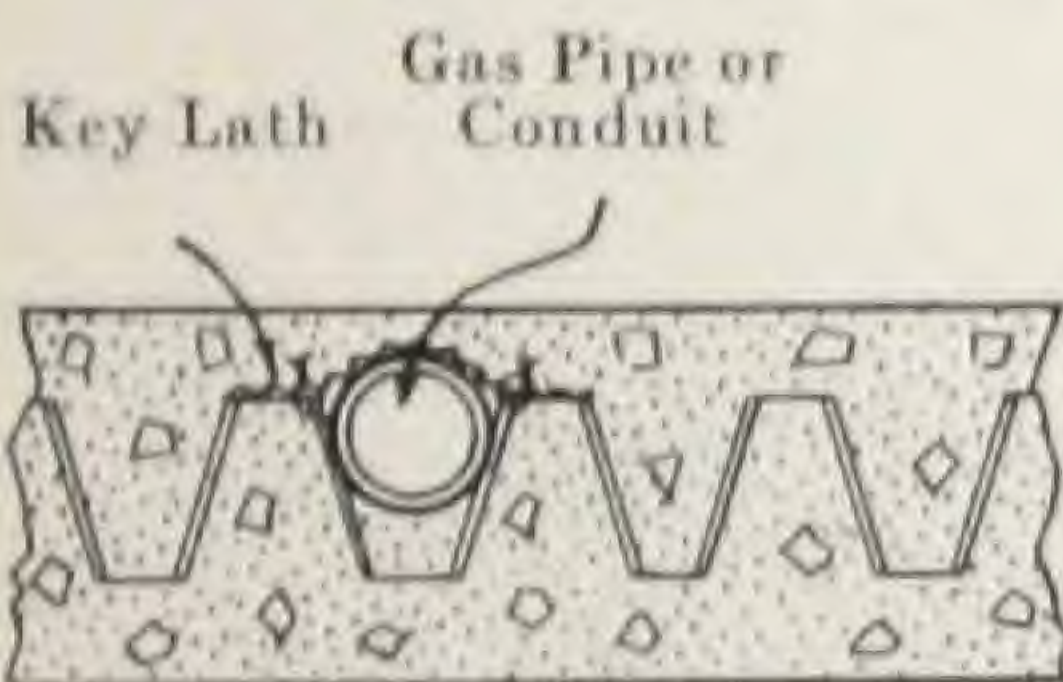


Here are Detail Illustrations Showing Method of Fastening Trussit Partitions in Concrete Buildings





Framing for Wood Door in a Trussit Partition



Detail Showing Placing of Pipes or Conduits in "Trussit" Partitions

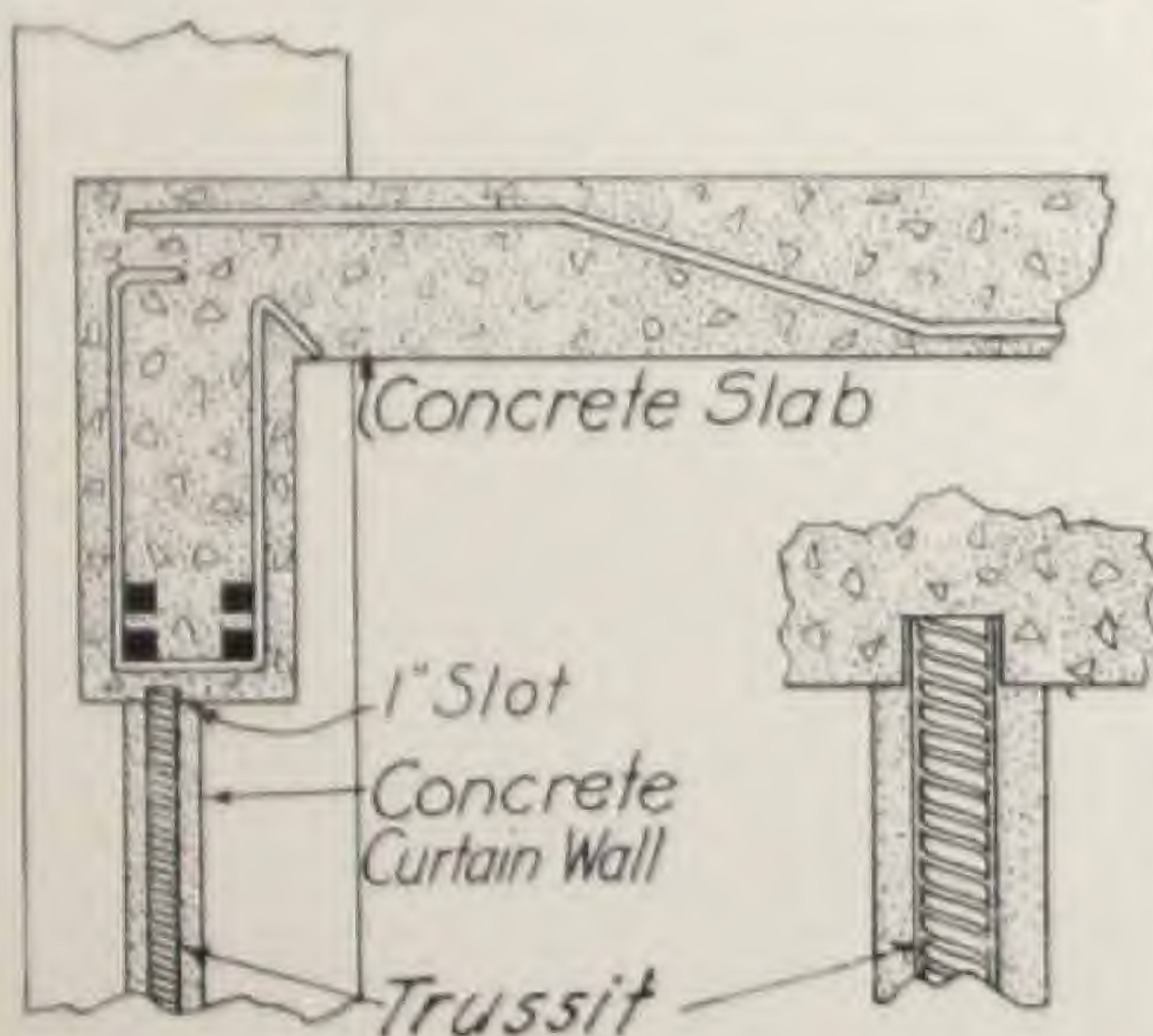
blows, are badly damaged, the metal and plaster will not give away. In fact, the only way to get through a Trussit partition is to cut through with a chisel.

Where sound-proofing is a consideration as in hotels, hospitals, schools and other buildings, Trussit partitions give excellent results. We have dozens of examples (letters on file to substantiate them), where Trussit partitions in use, are giving satisfaction.

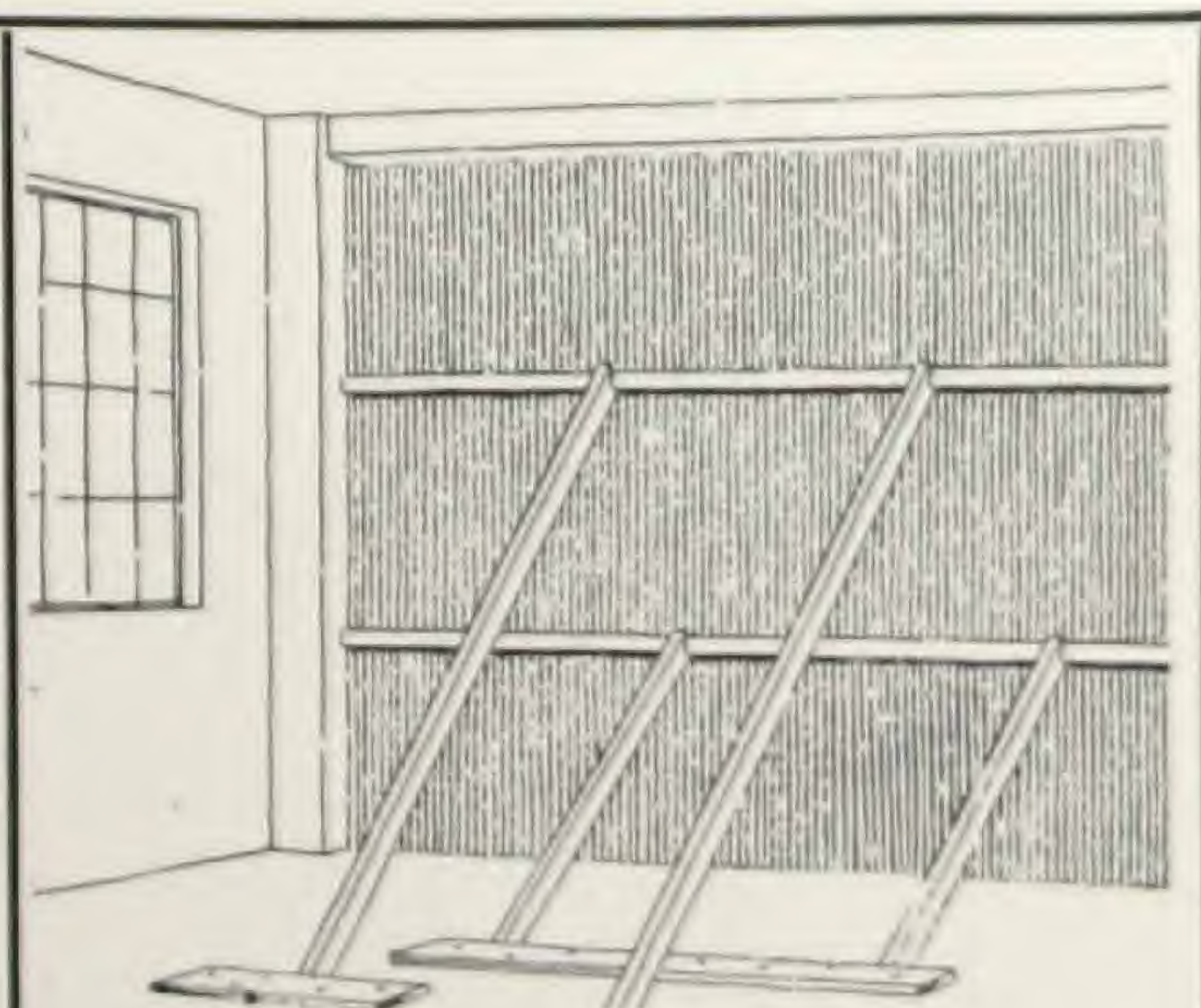
Sound-proofing is not difficult, providing all means for excluding noises from adjoining rooms, are made use of. Cracks at floor and ceiling line, doorways and openings admit noises and no construction or material is at fault. No ordinary noise will pass through two inches of solid cement plaster and if Trussit is properly fastened at top and bottom and plastered up tightly to floor and ceiling, it will be as sound-proof or more so, than any partition that can be built.

Temporary bracing to hold the Trussit rigid while first coat of plaster is applied, is simple. Sketch at bottom of this page furnishes an idea as to what it should be. It does not interfere with plastering because it is removed after the first coat of plaster has been applied to the side opposite that where bracing is placed.

In designing Trussit partitions, consider carefully the methods detailed on this page. If they do not meet conditions we will be glad to make definite suggestions.

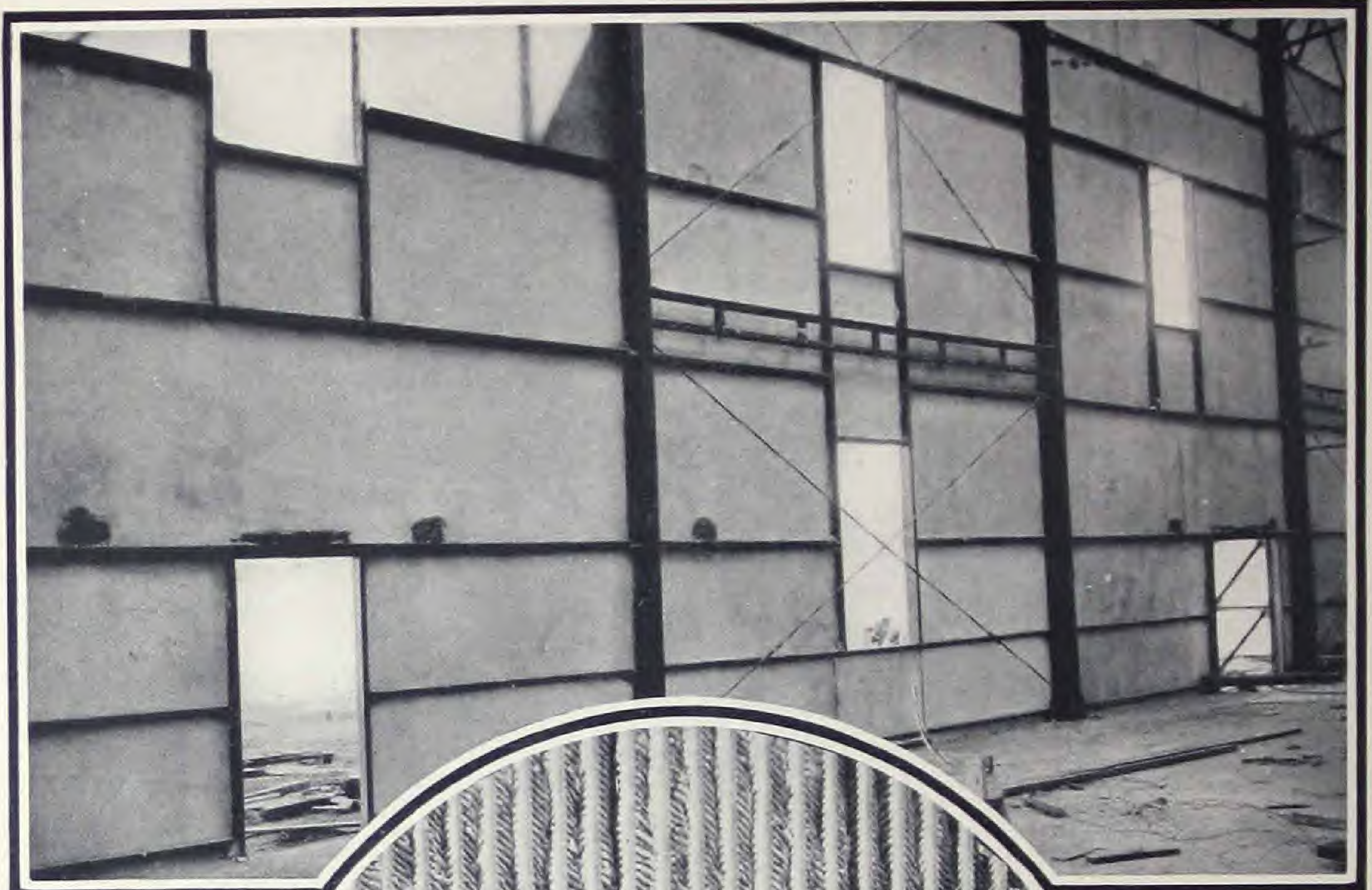


Another Method of Fastening Trussit Partitions in a Concrete Building

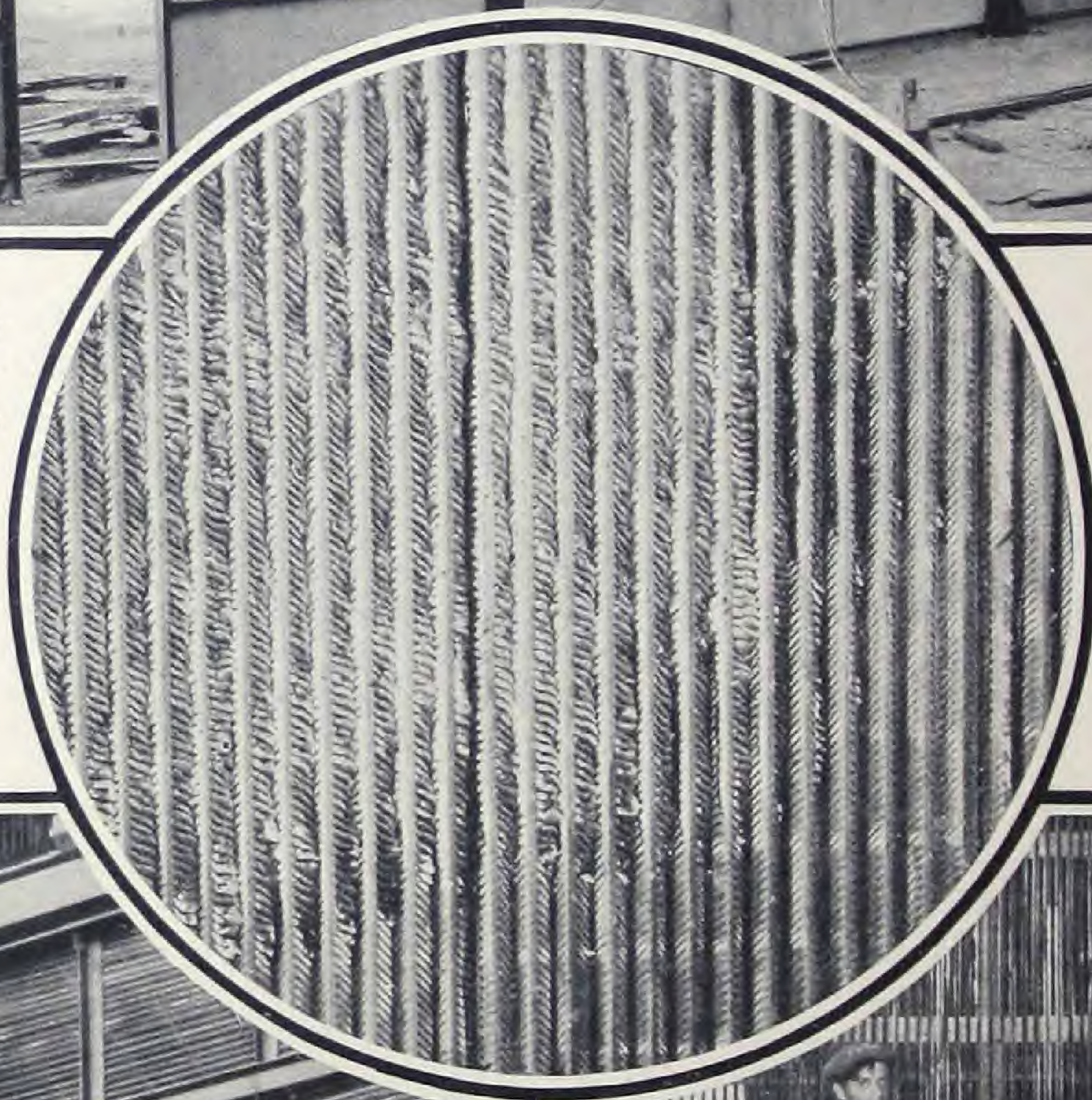


Suggested Method of Temporary Bracing for Trussit Partitions

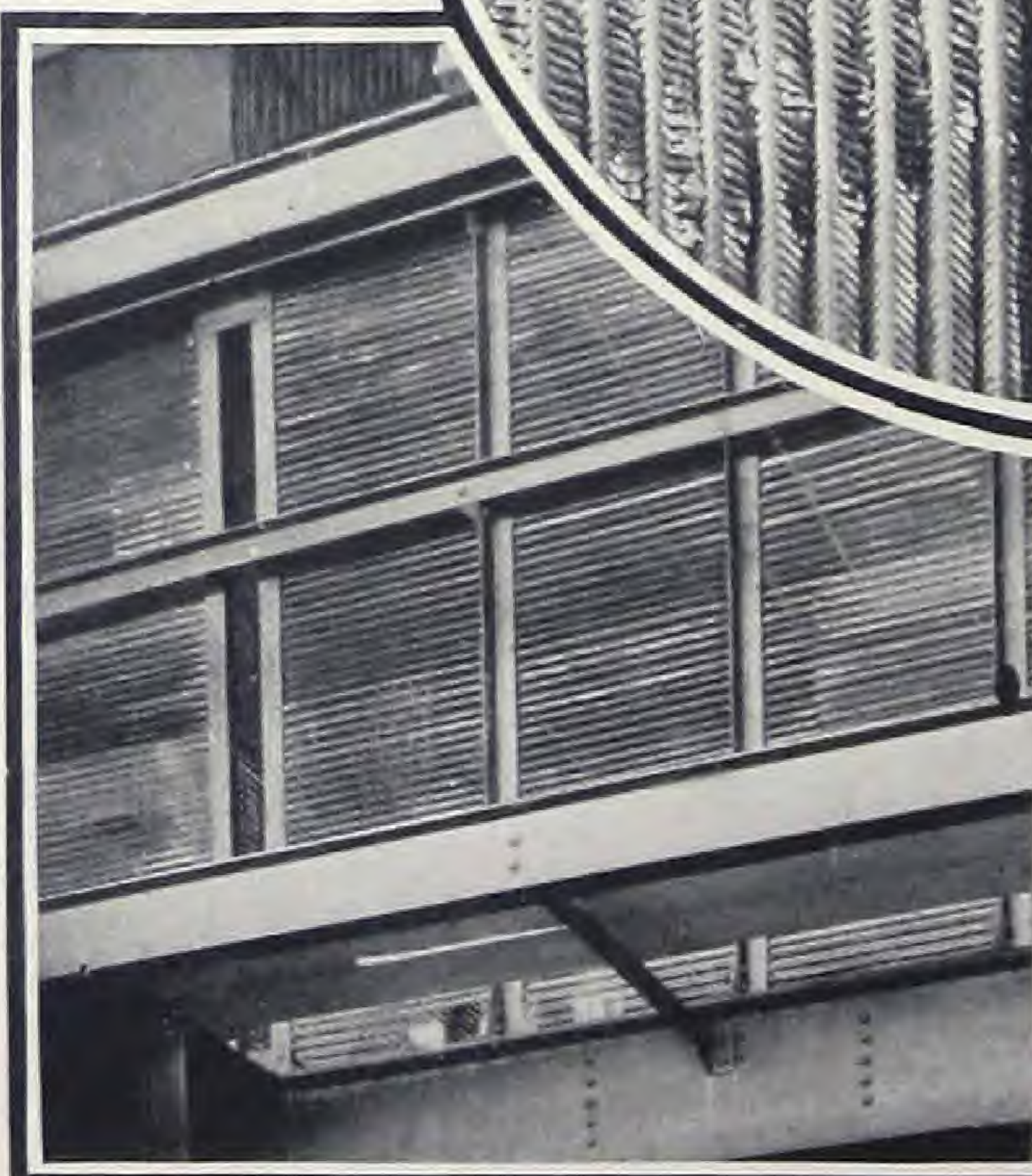




Trussit Partitions in Plant of Texas Portland Cement Co., Houston, Texas



A Close-up View of Trussit, Partly Plastered on Opposite Side



Trussit Construction in Municipal Reduction Plant, Chicago

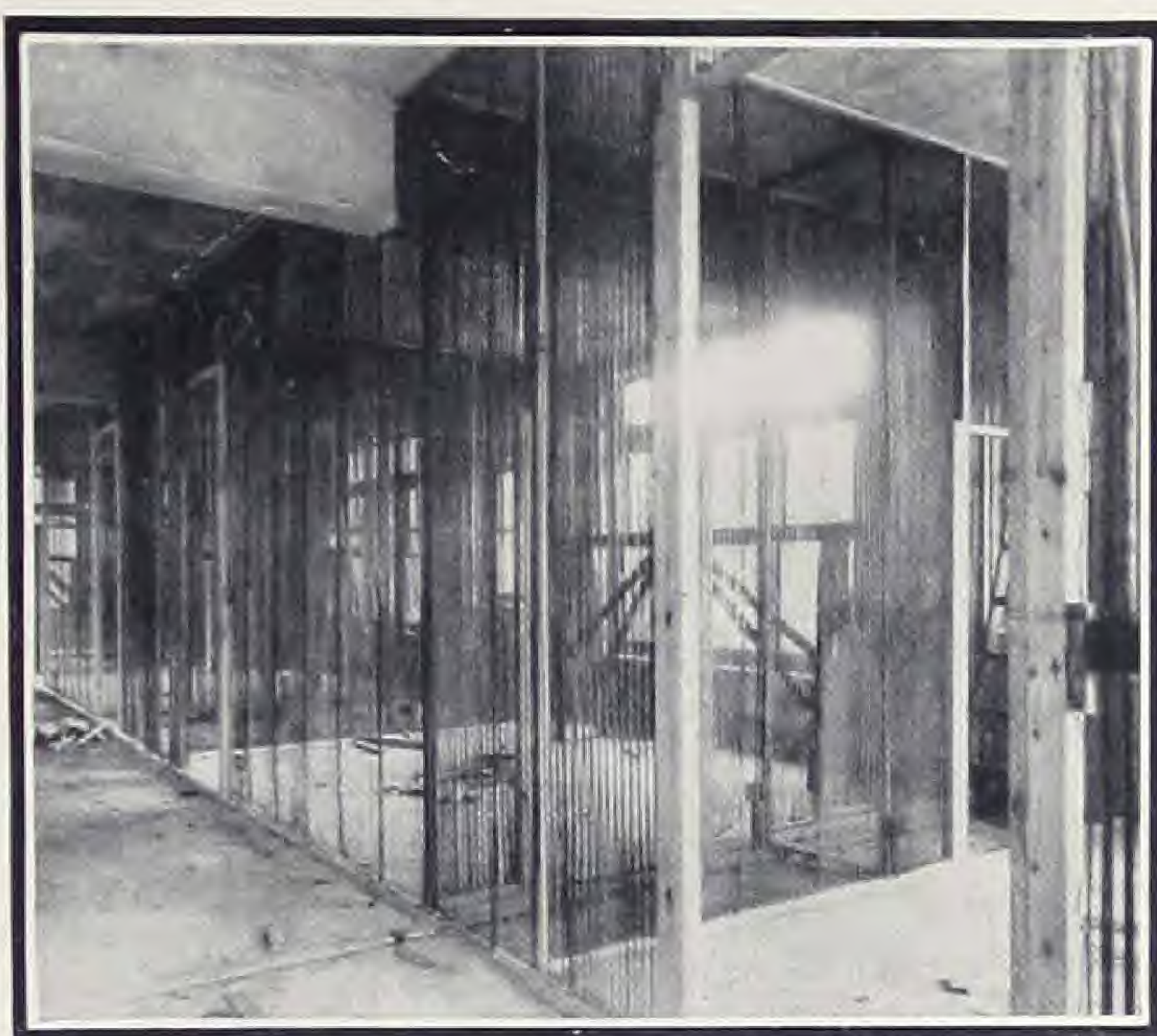


Residential Flats, Rosario. Trussit Partitions Architect, Senor Francisco Roca



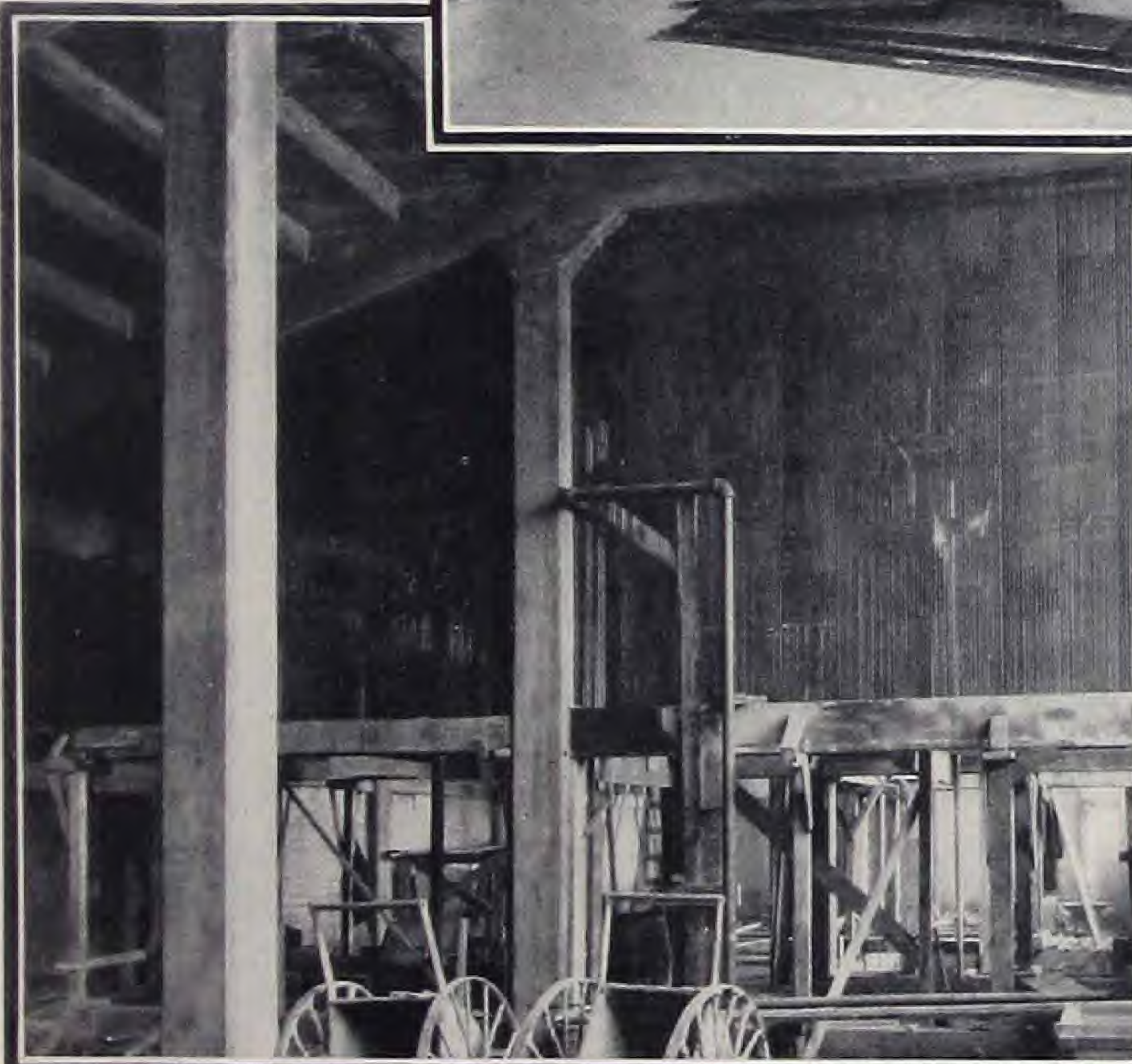


Trussit Partition in a Louisville, Ky., Office Building. Note the Small Amount of Space it Occupies.—H. Woolters, Archt.



Trussit Partitions in Office Building of Ohio State Board of Administration, Columbus, O.

Trussit Partitions in Crown Knitting Mills Plant at Mohrsville, Pa. Archt. Calvin J. Young, Reading, Pa.



Trussit Partitions Under Construction in Players' Clubroom Detroit Baseball Park



Plastering a Trussit Partition



## Curtain Walls

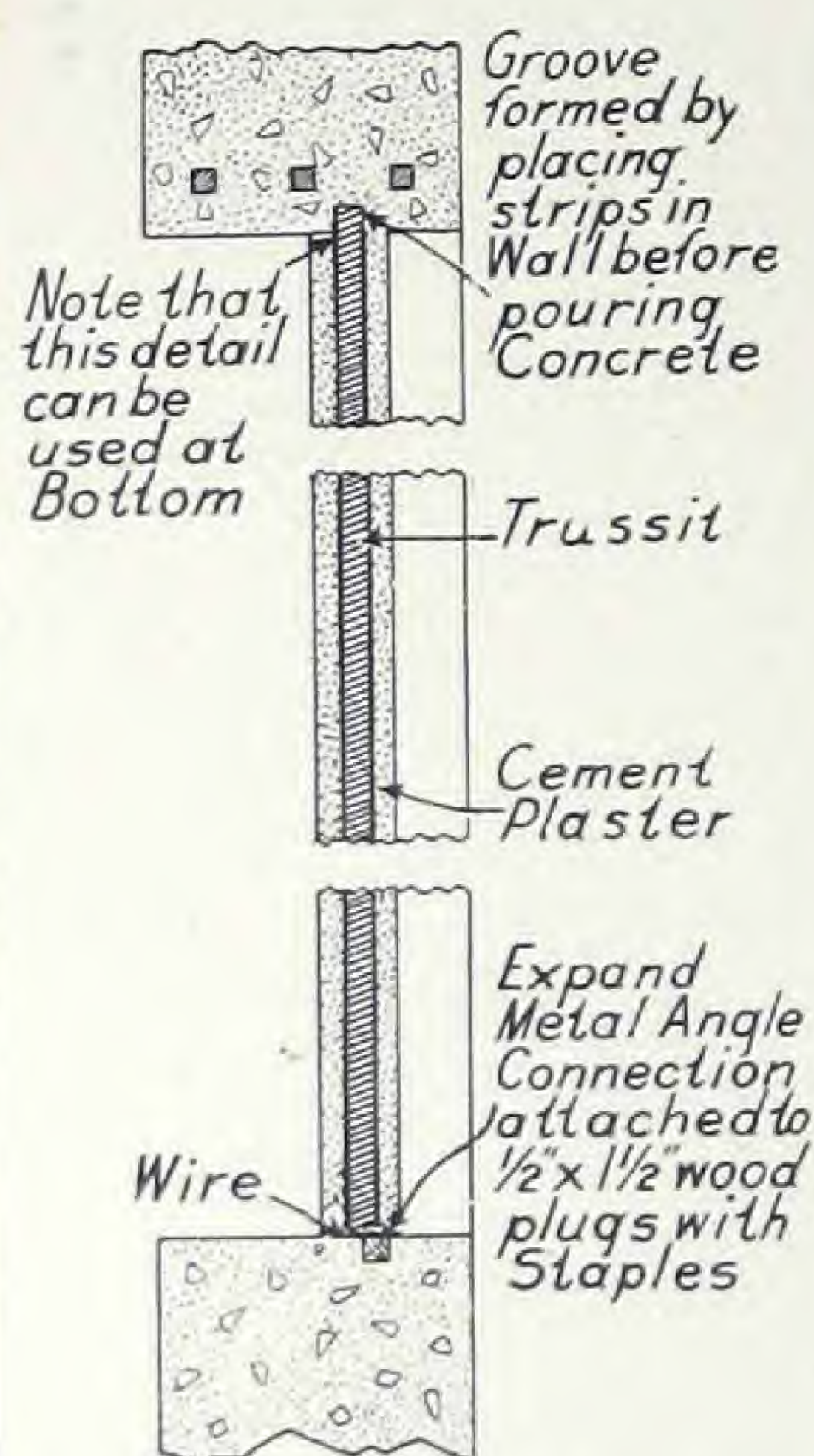
BY "curtain" wall is to be understood a wall having no other function than to divide space. In an industrial building, it is merely that part of the construction that finishes dividing all outdoors from the interior of the building. It does not bear any weight of the structure and is fastened to the structural members.

Reinforced concrete buildings, built with heavy columns, that support the weight of the structure, require some method of filling in between these columns and the space occupied by windows. Here is one place where Trussit Curtain Walls are used.

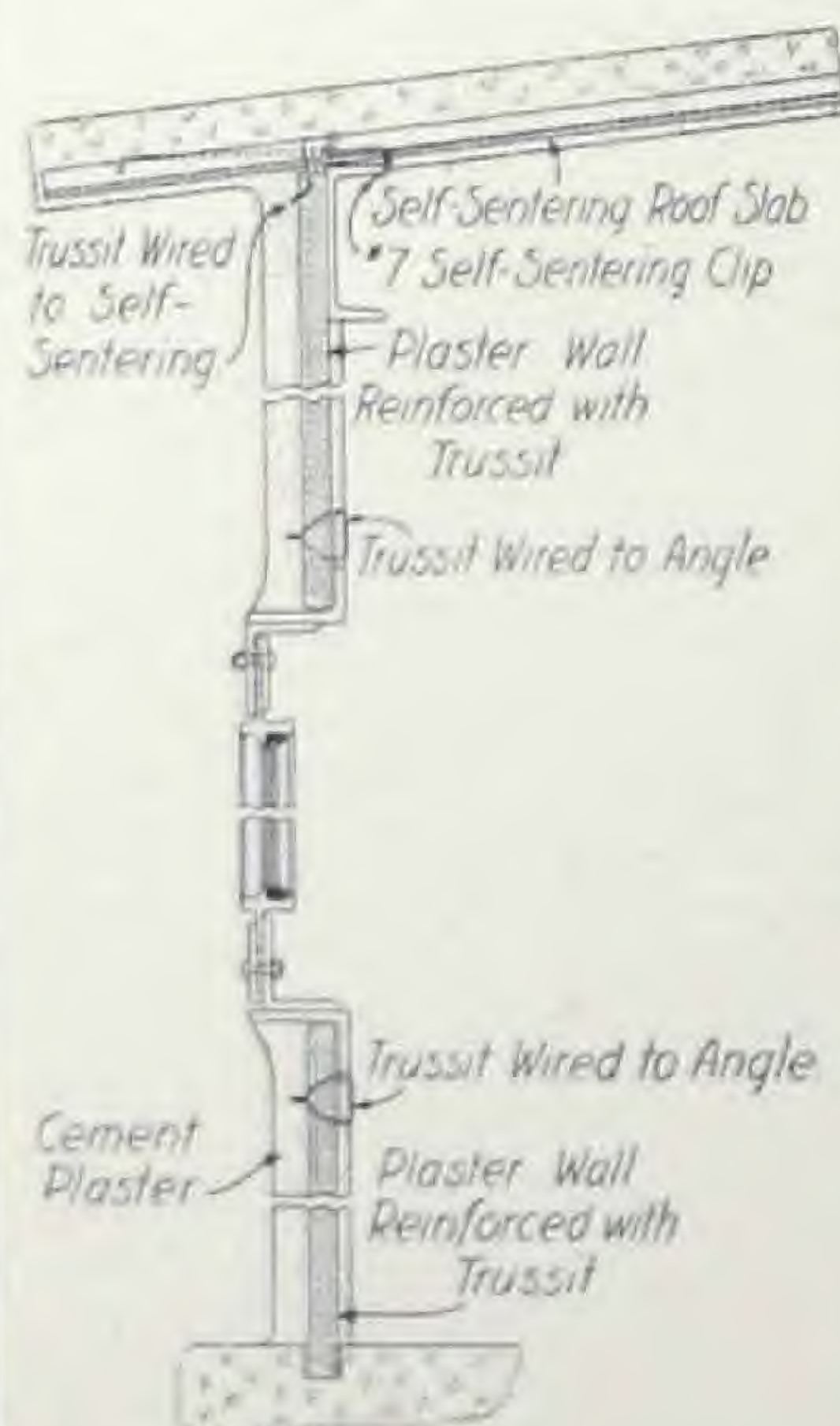
Structural steel frame buildings, similar to the Incinerator Plant shown on opposite page, is another field for Trussit Construction. The Trussit sheets are merely fastened to the Steel framework and cement-plastered.

The same principles of light-weight, simplicity of construction and rigidity, that apply to Trussit construction under other conditions, are found in curtain wall work.

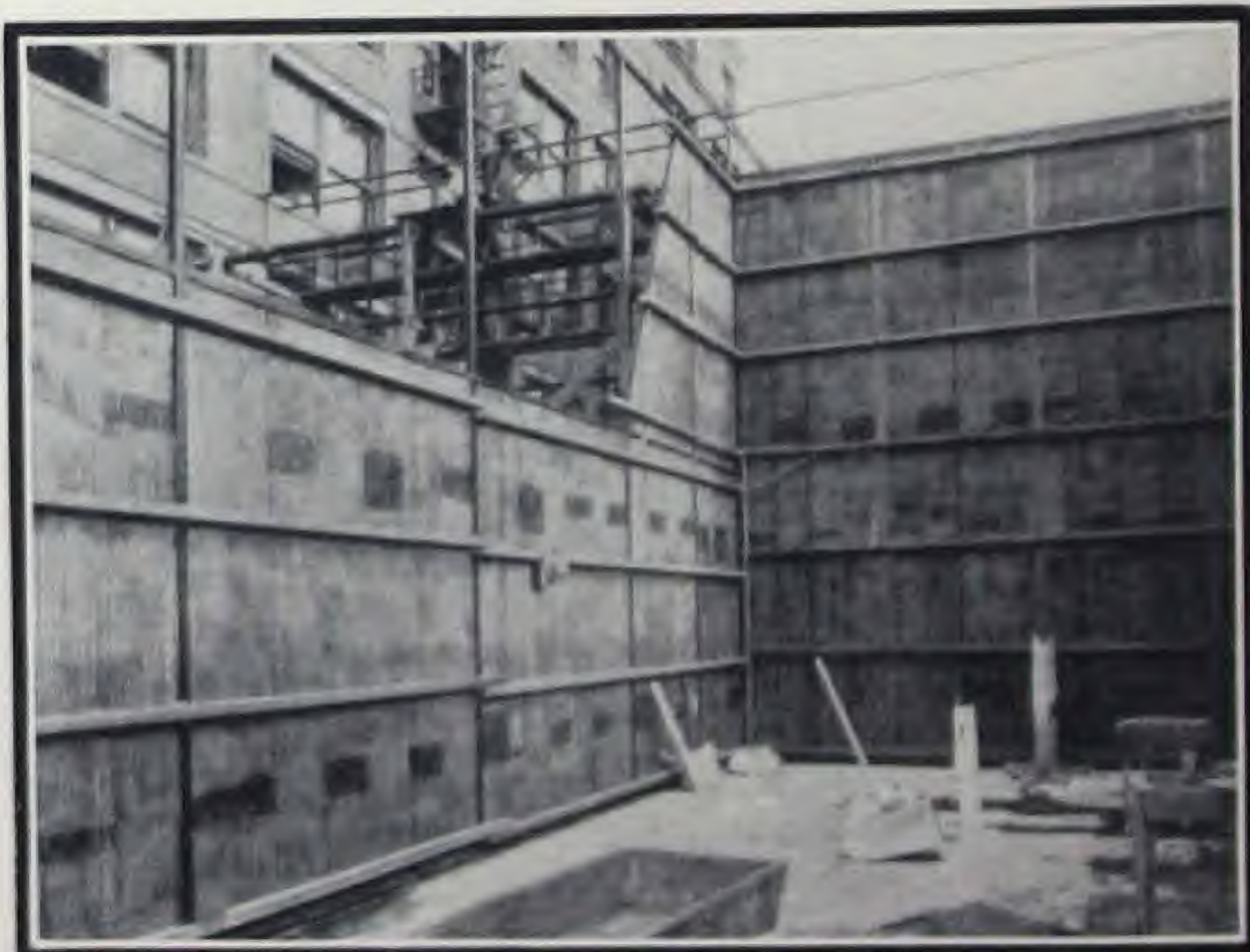
Standard details here shown are intended to show method of use but if they are insufficient, let our engineering department submit others to meet your needs.



This detail illustration shows construction of Trussit reinforced curtain walls in a concrete building.

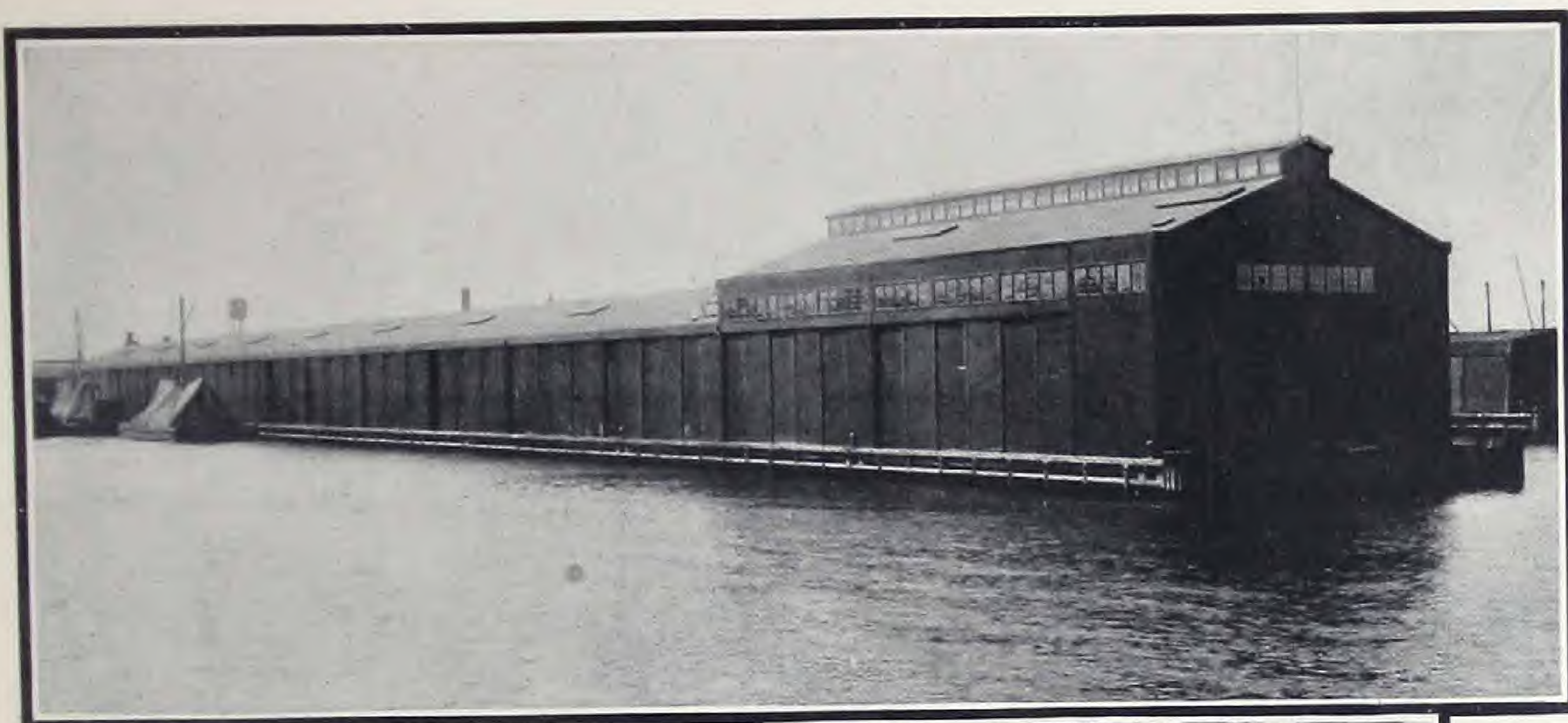


Trussit Curtain Walls in steel frame building with steel sash, illustrating simplicity of construction.



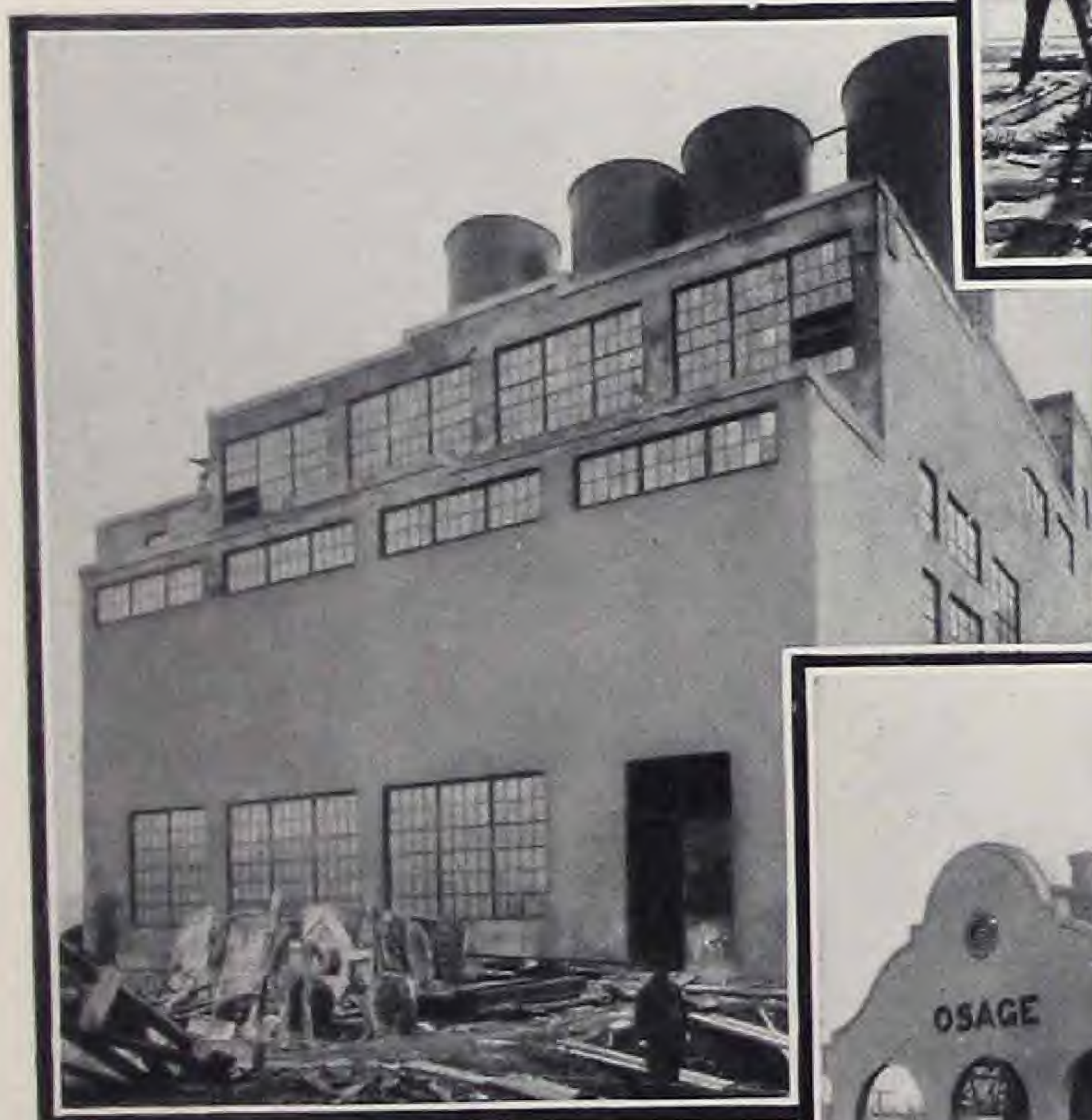
Trussit Walls in Hand Ball Courts of Y. M. C. A., Los Angeles, Calif. These Walls are 20 feet high





Trussit Curtain Walls in Machine Shop,  
Pier 36, Brooklyn, N. Y. Architects,  
Robbins-Ripley Co.

Trussit Curtain Walls  
in a Reinforced Concrete  
Building



Dryer Building of Municipal  
Reduction Plant, Chicago, Ill.  
Trussit Curtain Walls. Col.  
Henry A. Allen, Chief Engineer.  
A. E. Nichols, Designing En-  
gineer.



M. K. & T. Railway Station, Osage,  
Okla. Trussit Construction





Trussit fence Detroit Baseball Park, Detroit, Mich.



Trussit balustrade or parapet wall. Military Prison, Alcatraz Island, Calif.

## Fences

**C**EMENT fences or walls, often desirable enough although ordinarily expensive and difficult to build, are comparatively simple and economical to erect with Trussit.

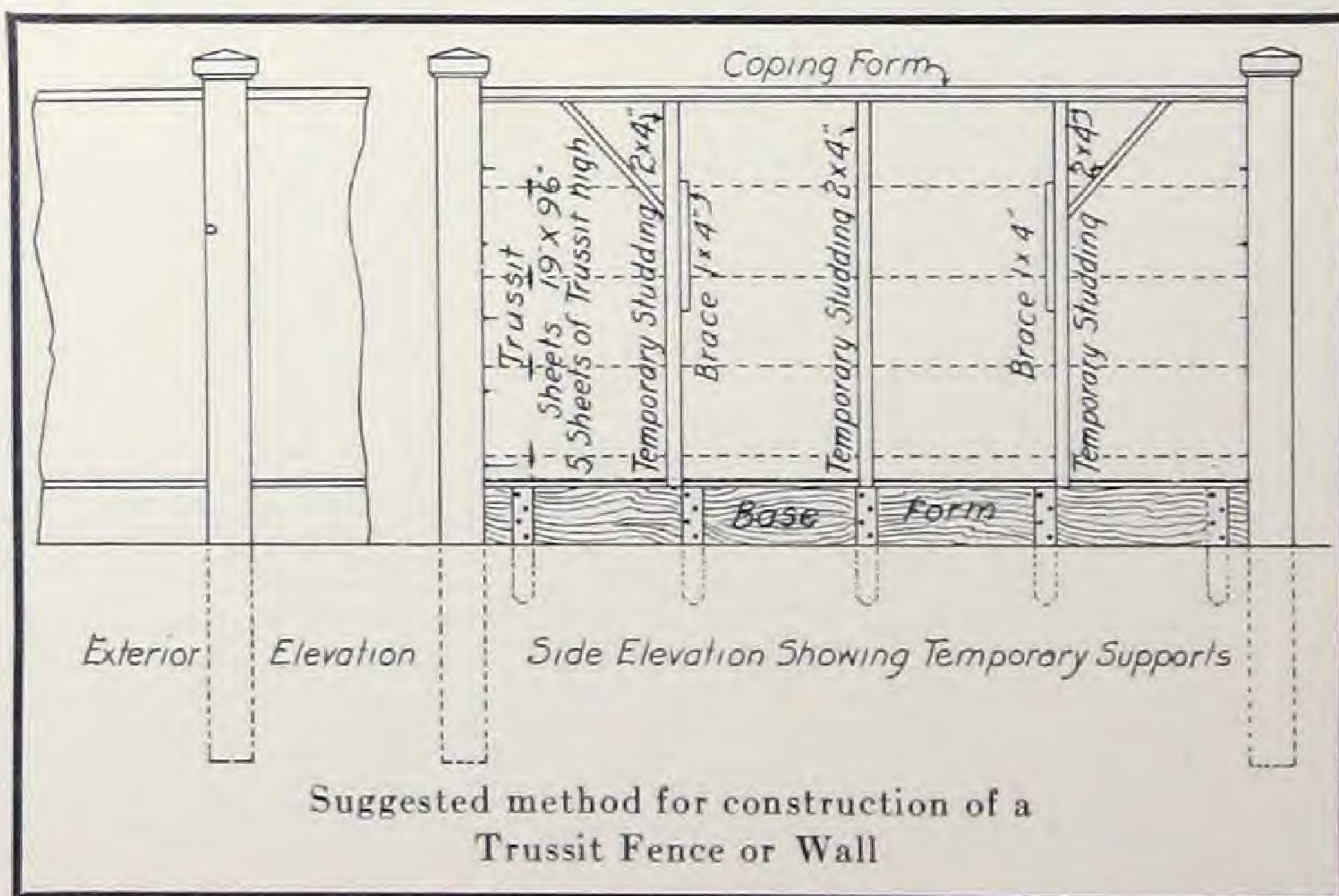
Several very prominently-known athletic fields are enclosed with Trussit Fences, also many private institutions and estates. Some of these are shown on this page.

Trussit is wired in place, braced temporarily while first coat of plaster is applied and plastered on both sides.

A simple operation and one which any plastering contractor will be glad to do.

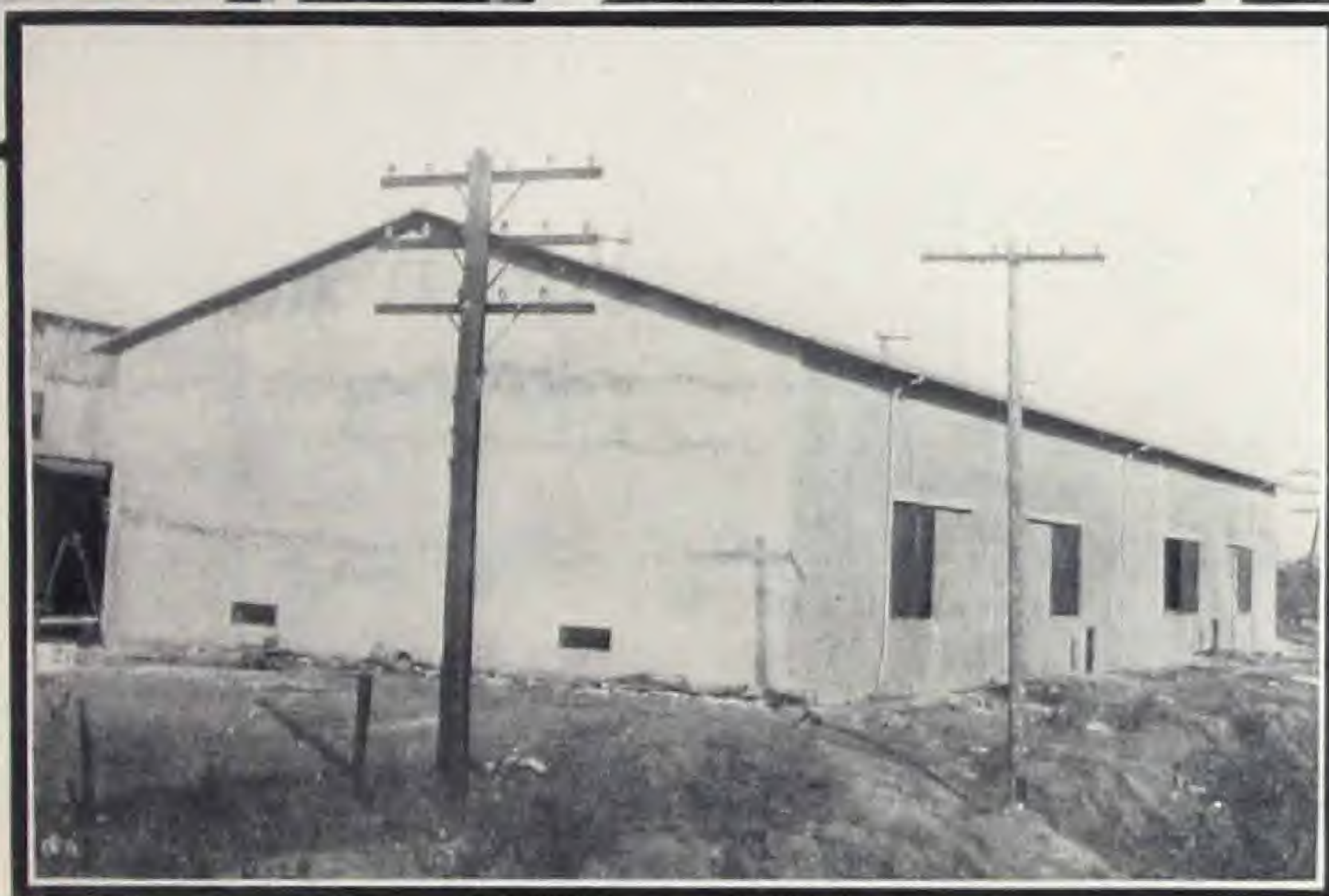
Runways and railings for bridges are also easily built with Trussit. No forms are needed as with concrete, and the finished work is more satisfactory.

More complete details will be furnished upon request.



Suggested method for construction of a Trussit Fence or Wall





Wood Frame Building with Trussit Reinforced Walls. One Illustration Shows Workmen Plastering Trussit, Which Has Been Nailed to Wood Supports. Other Illustration shows Finished Building. The Structure is a Milling Warehouse at Lodi, California

## Wood Frame Buildings

*(Technically Designated as Semi-Fireproof Construction)*

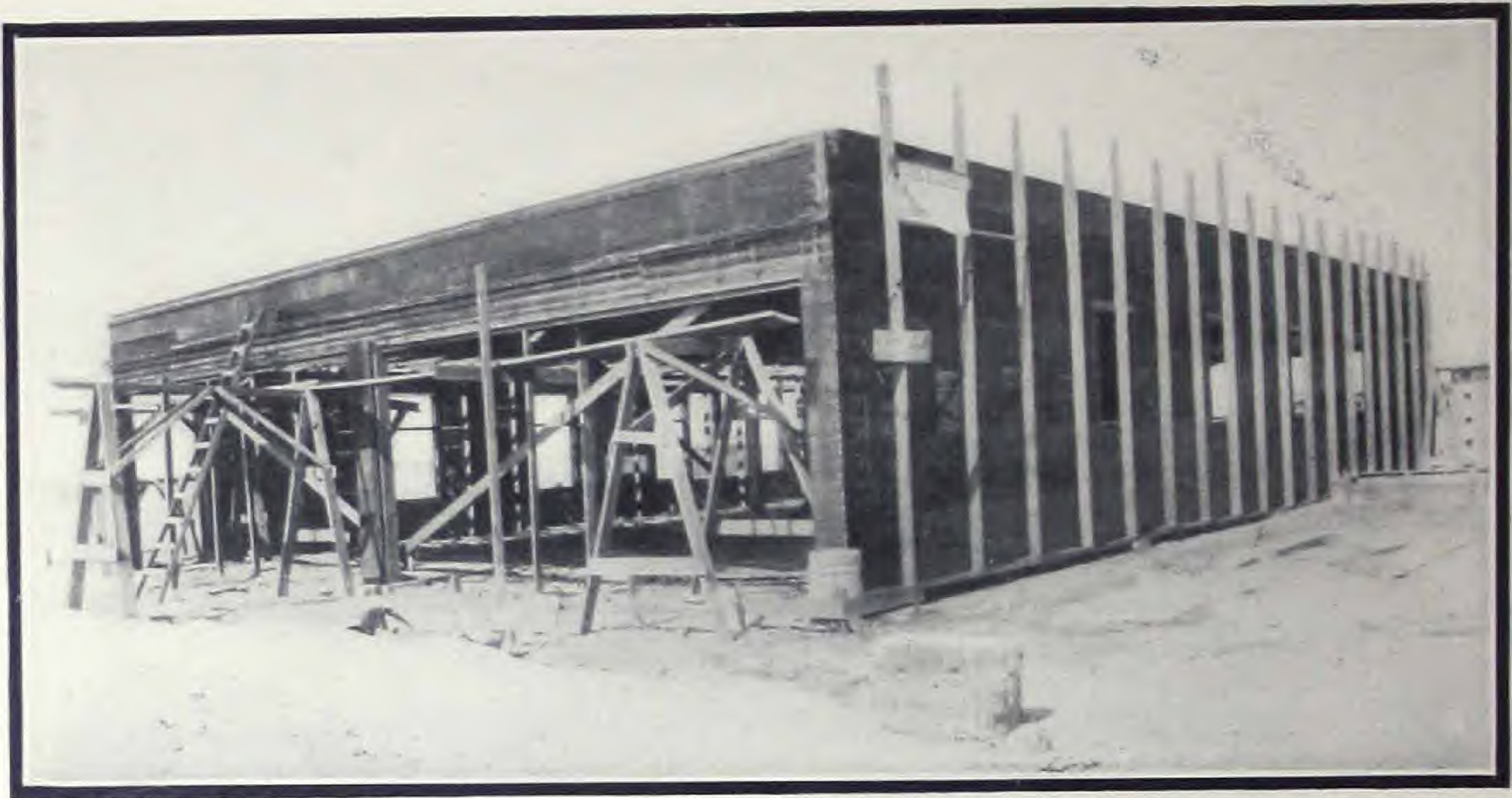
**S**OME fire protection is better than an entirely burnable building. A semi-fireproof structure is therefore highly desirable when the utmost protective value cannot be incorporated in the structure as it is erected. The ideal, of course, is a strictly fireproof building — a building where fire can gain no foothold.

Wood frame buildings, properly built, can have a large degree of fire-resistance. Wood frame buildings with exterior walls covered with Trussit and plaster and with Trussit solid partitions; floors of Self-Sentering (another GF product — complete information on request), and concrete over wood joists and a Self-Sentering, concrete roof, is good, semi-fireproof construction.

The exposed columns, joists, beams and trusses can be easily and economically fireproofed by wrapping with GF Key Expanded Metal Lath and plastered with cement plaster. The Metal Lath is held away from the surface of the wood members by GF Cold Rolled Channels.

Such structures have been built, as the illustrations herewith will indicate and they make good industrial or factory buildings.





Ernest Faure Building, Van Nuys, Calif., Constructed of Trussit on Wooden Studs. Economical, Fire-Resistive and Permanent

During such times as the great war brought to us, when steel is needed more urgently for other purposes, fireproof or semi-fireproof structures, the best that conditions permit, should be built.

A building covered with two-inch walls of cement, held together rigidly by Trussit, also presents a stubborn resistance to the elements. It requires little or no repairs, painting is unnecessary, yet the appearance of such a structure is excellent. In fact, from the exterior it would be difficult to distinguish it from a reinforced concrete building.

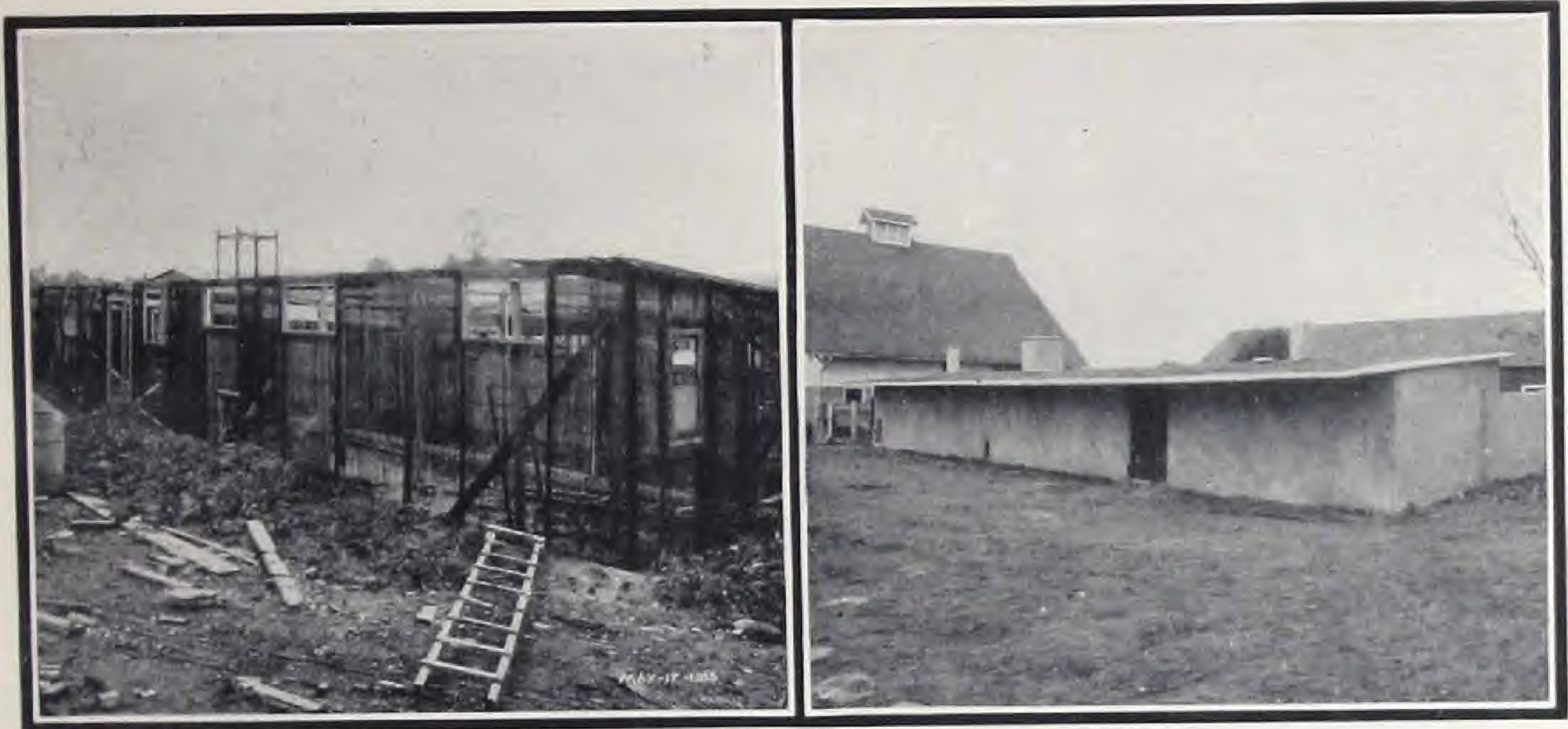


Trussit Partitions in a Wood Frame Building

Trussit is easy to handle, apply and plaster. On exterior walls it is fastened to the wood supports by stapling. The large sheets go up quickly and easily. Cement plaster is applied to the exterior and then to the interior equally to a depth of 2 or 2½ inches. Partitions are constructed as outlined at another point in this book.

Full details will be submitted upon request. Those shown here may be adequate for average requirements, but our engineering service department is conducted for the benefit of designers and builders and its help is given entirely without charge or obligation.





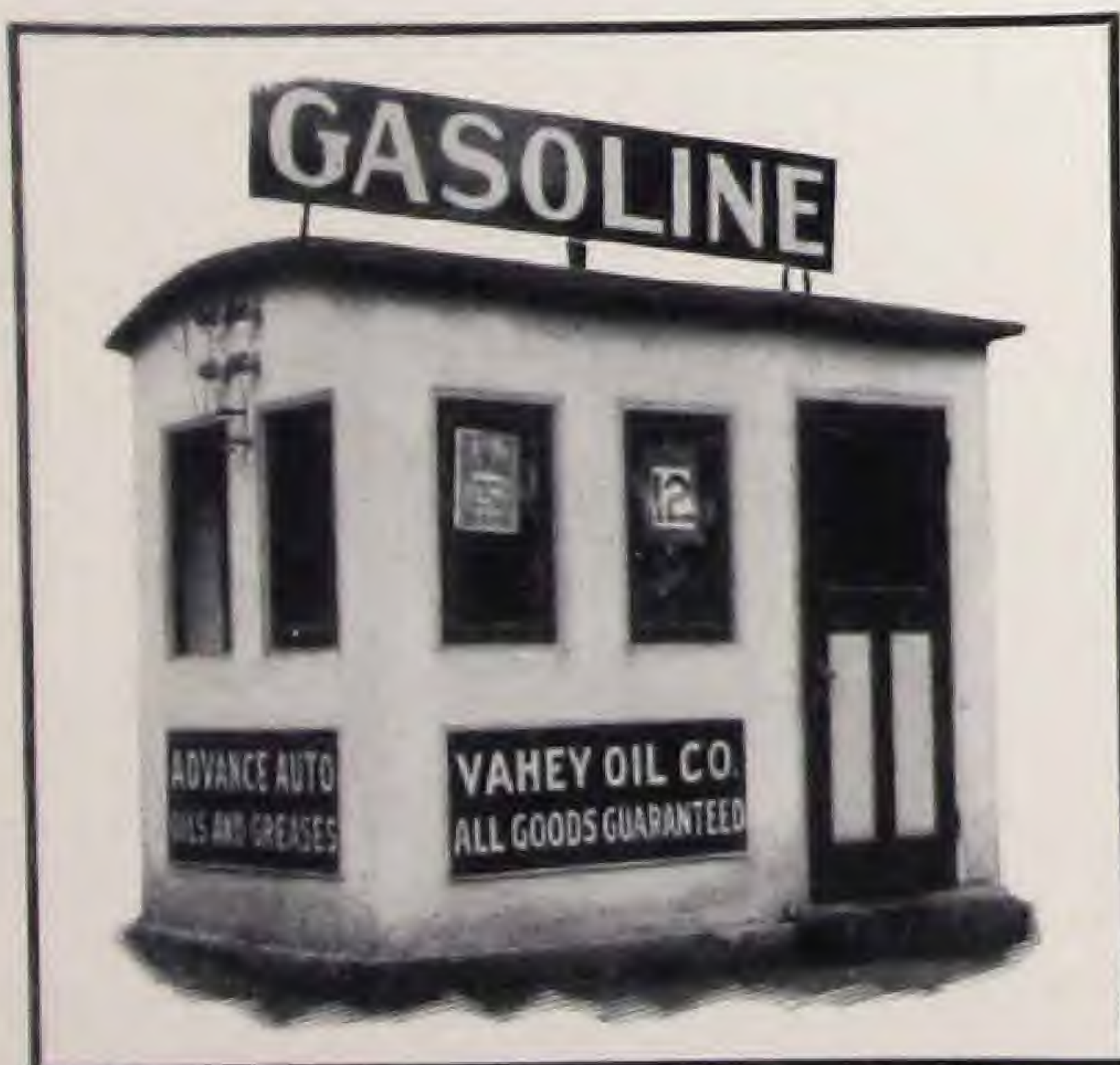
A Hog House Under Construction on the Left and Completed on the Right. Built with Trussit Side Walls and Self-Sentering Roof. Erected for F. F. Ingram, Gross Isle, Mich.

## Small Buildings

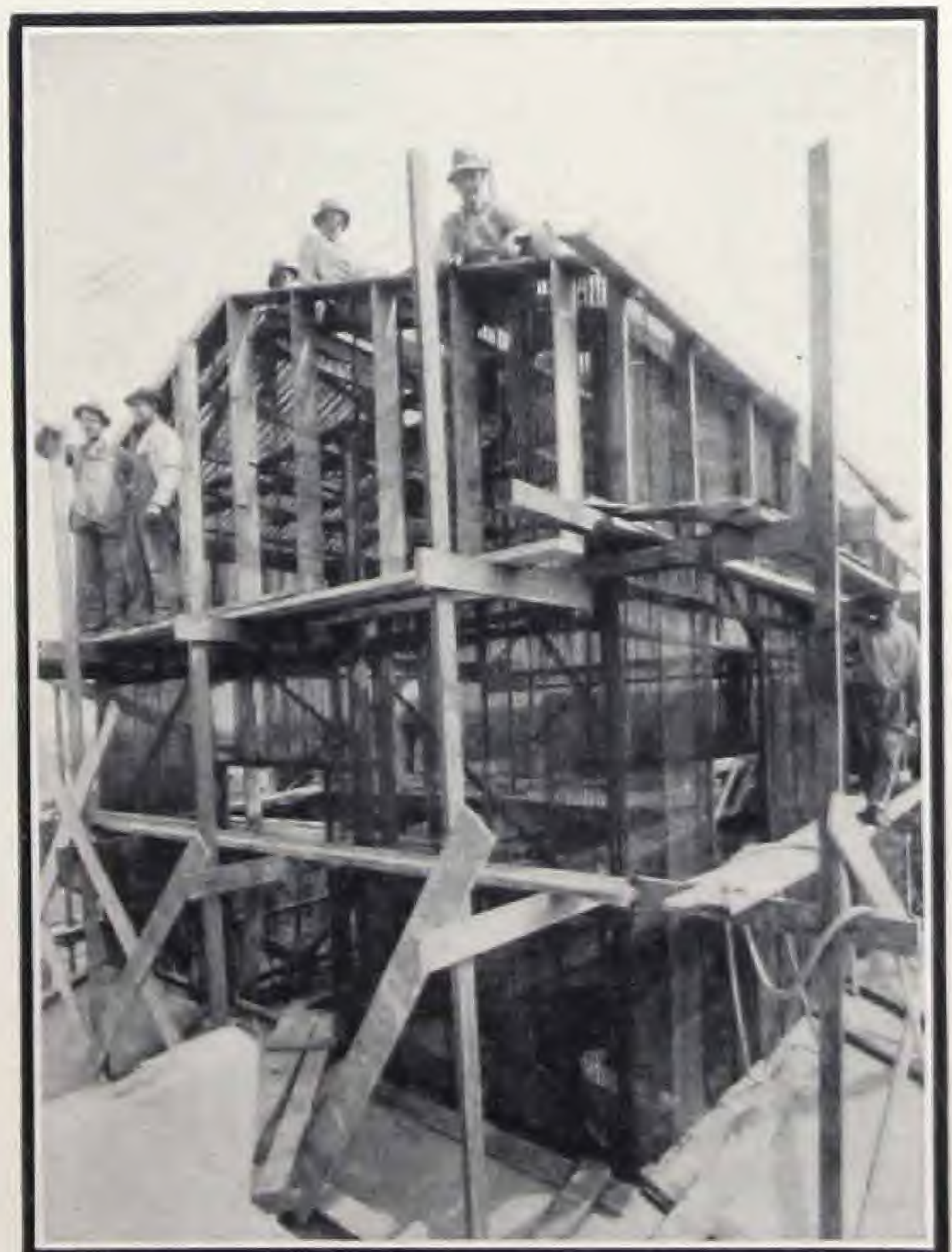
**S**MALL buildings such as are often required in an industrial plant, and for miscellaneous purposes, often must be fireproof — that is why they are built. Small buildings of this type are also being built on the farm. A system for building them economically and quickly is in demand. Trussit solves the problem.

A light steel frame is sometimes used: sometimes the frame is of wood. Some such buildings are entirely without frame — as an example: please note the gasoline station in lower left-hand corner. The side walls of this building are of Trussit, cement-plastered and the roof is of curved Self-Sentering and concrete. The side walls are amply strong to support the thin concrete roof slab.

Such buildings can be designed by the average builder and a plastering contractor can do the work.

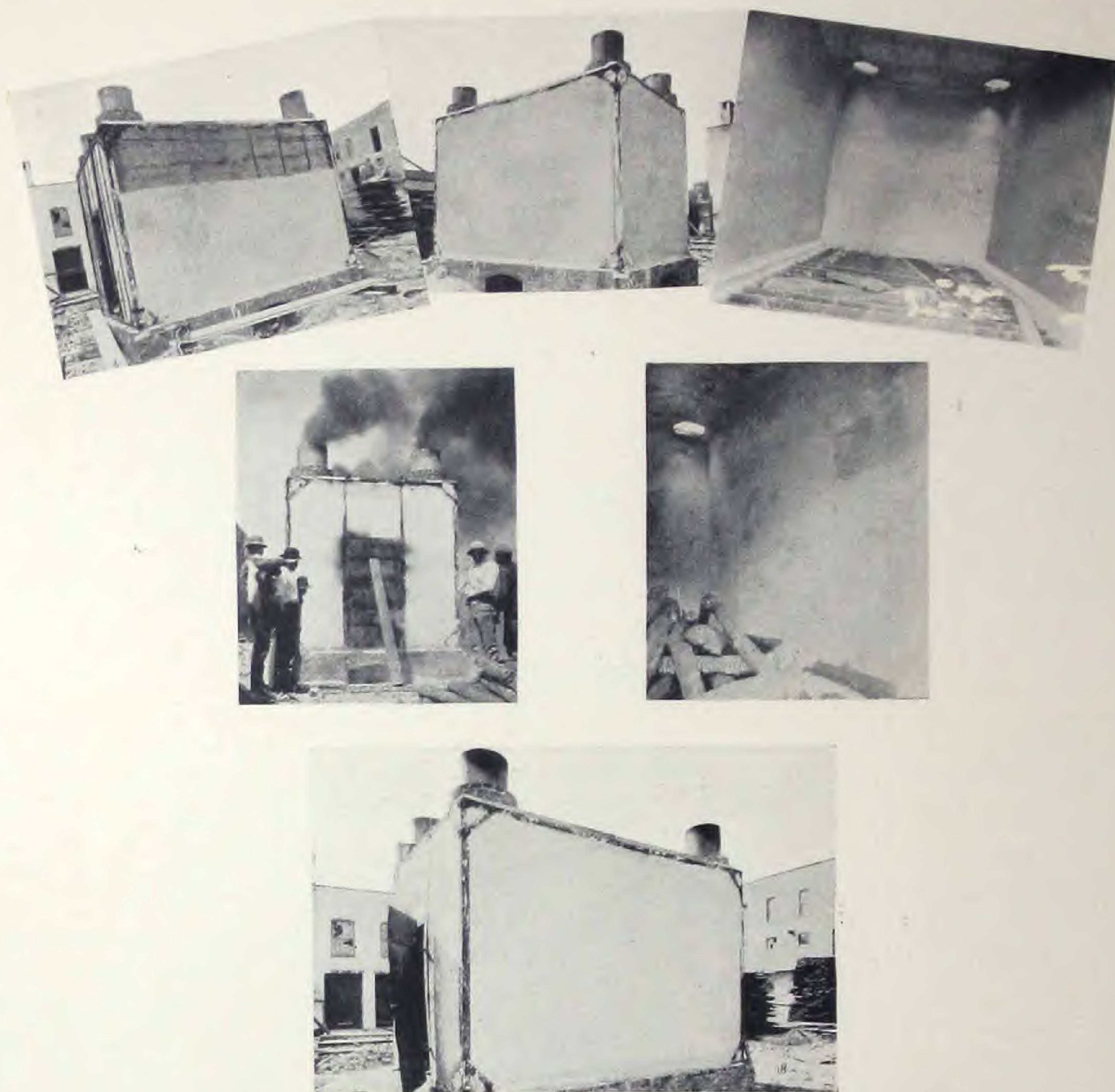


Gasoline Station, Youngstown, Ohio  
Trussit Side Walls and Self-Sentering Roof



A Small Structure for the Fruen Elevator, Minneapolis. Trussit Walls and Self-Sentering Roof





## Fire Test on Trussit Partitions New York City

**T**HE Trussit partitions for this test were erected on  $1\frac{1}{4}$ -inch tees, 4 feet on centers. The partitions were covered on both sides with cement plaster to a total thickness of  $2\frac{1}{2}$  inches. They were 9 feet, 6 inches high and 14 feet, 6 inches long.

The partition was subjected to an average of 1700 degrees of heat for one hour. At the end of this time a stream of water from a  $1\frac{1}{8}$ -inch nozzle with hydrant pressure was directed against the partition for  $2\frac{1}{2}$  minutes. No fire or water passed through the partition at any point. As a result of the test, Trussit was approved in New York City for all interior fireproof partitions, elevator enclosures, dumb-waiter and light shafts and bulkheads.



## Trussit Solid Partition Specifications

**T**RUSSIT, as manufactured by The General Fireproofing Company, of Youngstown, Ohio, shall be used as a reinforcement for all solid partitions. Gauges to be used as indicated in the following table:

Height	Trussit
Up to 12 ft.	27 gauge
12 ft. to 15 ft.	26 gauge
15 ft. to 17 ft.	24 gauge

Trussit may be erected with the ribs running vertically or horizontally, and it is always desirable to run the ribs in the short direction of the span.

All ends and side laps shall interlock and shall be securely tied together with No. 16 gauge tie wire at intervals of approximately 12 inches, and tops and bottoms of all sheets shall be secured to the ceiling and floor by expanded metal runner angles or other substantial methods. Temporary braces approximately 5 feet apart shall be placed against one side of the sheet to prevent deflection under trowel pressure. These braces may run horizontally when the sheets are vertical and vertically when the sheets are horizontal, and may be removed when the first coat of mortar, which has been applied to the side opposite the braces, has thoroughly set.

Ordinary patent plasters can be used with good results, but it is advisable to use cement plaster, and the following has been found to be the most efficient mix: One part of cement; three parts of sand; a small amount of hair, well tempered with lime mortar to set up hard and firm. (Lime putty not to exceed 10 per cent by volume is recommended.)

This mortar is applied in consecutive coats to a depth of approximately  $\frac{5}{8}$ -inch over the ribs of the metal, and is floated to an even surface. After the first coat has set, the opposite side of the wall is to be plastered in the same manner. The total thickness of the partition is approximately 2 inches. If thicker walls are desired, it is necessary to apply additional coats of plaster until the required thickness is obtained. The thickness should not exceed  $3\frac{1}{2}$  inches.

Where baseboards or picture mouldings are required, beveled wood blocks are fitted into the corrugations of the Trussit before plastering, and are nailed or wired in place, and the moulding or baseboard nailed securely to these blocks, as indicated in the detailed drawings.



## Trussit Curtain Wall Specifications

**T**RUSSIT, as manufactured by The General Fireproofing Company, of Youngstown, Ohio, shall be used as a reinforcement for all exterior curtain walls. Gauges to be used as indicated in the following table:

Spacing of Supports	Wall Thickness	Trussit Gauge
6'	1 $\frac{3}{4}$ "	27
8'	2"	26
10'	2 $\frac{1}{2}$ "	26
12'	2 $\frac{1}{2}$ "	24

Trussit shall be attached securely to the structural members and the ribs of the sheets should always run in the direction of the shorter spans. Where supports are more than 6 feet apart, temporary bracing shall be provided to give a firm plastering surface until one side of the wall has been plastered.

Sheets should be securely fastened to columns or other structural supports at intervals not to exceed 6 inches. Special clips may be used for this purpose, or the sheets may be wired directly to the supporting members. If the supporting members are of wood, staples may be used, and if reinforced concrete, any method shown in the detail drawings herewith may be used.

Ends and sides of all sheets shall interlock and shall be securely wired together between supports with No. 16-gauge tie wire at intervals of approximately 12 inches. The ends of all sheets shall lap at least 6 inches if laps occur between the supports, and not less than 1-inch if over supports. The laps between supports should be staggered.

## Plastering

**A** SCRATCH coat shall be applied to the outside first and shall consist of one part of Portland Cement and three parts of clean sharp sand, with a small amount of hair and only lime enough to insure a smooth working mortar. Not more than 10 per cent by volume of lime putty should be added.

This coat should be not more than  $\frac{3}{8}$ -inch over the ribs and should be well worked into the meshes to properly bind on the inner side. When partly set, this coat should be well scratched to receive the final coating. When the first coat has set, any temporary bracing shall be removed and the inside coat applied of the same mix as for the exterior, and shall cover the ribs about  $\frac{1}{4}$ -inch.

The finished outside coat shall then be applied, consisting of one part of Portland Cement, and two parts of clean sharp sand.

If desired, GF No. 10 Integral Waterproofing Paste may be applied with the finished coat. If a thicker wall is required, another coat inside may be added, using either the same mixture as for the first two coats or varying it by using coloring matter, white cement or white sand to give a more pleasing appearance on the interior.

The finished work shall be protected from too rapid setting and from wind and sun for several days, either by spraying or by hanging wet burlap curtains in front of the wall.

**The General Fireproofing Co.**  
Youngstown, Ohio



